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ORIGINAL ARTICLES.

ARTICLE I.

MINERAL WATER MIRACLES. By ALFRED LUDLOW CARROLL, M.D.

Read before the New York County Medical Association, October 17, 1887.

There are few things, even in the mystic traditions of medicine, which make a heavier draft on human credulity than the alleged remedial virtues of sundry more or less mineralized springs. Colossal fortunes have been amassed, nay, cities have been founded and thriven, from the accidental discovery of a water source with a particularly repulsive odor of spoiled eggs, or what Mr. Sam Weller described as "a wery strong flavor o' warm flat-irons"; indeed, the very name of "watering-place," which has for generations been synonymous with the most extravagant phase of fashion, is derived from the proclivity of well-to-do people to pay largely, away from home, for the gregarious imbibition of a beverage, usually of a convivially cathartic character, which they would indignantly condemn if it were on gratuitous tap in this own domiciles. Unreasoning faith, however, is fortified to honor the draft by widely advertised analyses showing in an imperial gallon perhaps a scruple of calcic carbonate, with an infinitesimal fraction of a grain of each of two of three coincident, almost inert, ingredients, and a "trace" of this, that, or t'other metalloid, the actual dosage of which to the patient transcends the wildest imaginings of the most ultra-Hahnemannian high-dilutionist; and physicians who scoff at homœopathic "attenuations," and who in their ordinary practice deal with nothing less than full pharmacopœial doses, will often advise a journey half-way to the antipodes for the sole purpose of ingesting minute quantities of salts wherefrom they would never dream of expecting therapeutic effects if otherwise administered. Good routine practitioners will in one breath caution their clients against the disastrous influence of "hard" water, and in the next recommend some spring loaded with sulphate of lime and magnesium compounds, or prætermit their ten-grain t. i. d. doses of potassium iodide to enable the patient to drink a specified number of glassfuls of a feeble solution of chalk, each containing the twentieth part of a "trace" of iodine. Many a rich dyspeptic has traveled far to swallow at Aix-la-Chapelle what he could have made at home by putting a spoonful of table salt in a tumblerful of water, and flavoring it with half a cubic inch of sulphuretted hydrogen; many an uterine invalid has essayed the "faith cure" at Kreuznach with a similar dilution of a half-drachm of salt and the eighth of a grain of bromide of magnesium. At Cheltenham our British cousin takes his salt and water with the addition of four and a half grains of Epsom salts, and, under the comparative abstinence enforced during his sojourn, gets somewhat the better of his gout; or at Bath solaces his neuralgia with goblets containing nothing appreciably medicinal beyond four hundredths of a grain of iron and a tenth of a grain of silica. In America, until a comparatively recent date, attention was chiefly directed to waters holding in solution purgative salts in manifestly effective amounts, or impregnated with hydrogen sulphide; but we are advancing in the refinements of analysis, and rival circulars are flooding our waste-baskets with elaborate tabulations of littleness and glowing testimonials of extraordinary results. One of the most mirific of these, spreads broadcast the panaceal efficacy of the Buffalo Lithia waters in nearly all the ills that flesh is heir to, from the gravest stage of Bright's disease to intermittent fever. According to the enterprising proprietor's statements, these contradictorily wonderful waters dissolve either phosphatic or uric acid calculi; rectify either amenorrhœa or menorrhagia; and cure both constipation and diarrhœa; while the existence in one of the springs of a "trace" of phosphoric acid is a trade-marked guaranty of relief in paralysis or chronic alcoholism. Astonishing as are such assertions, they are less remarkable than the opinions of an educated professional writer (Dr. G. Halsted Boyland, *New York Medical Journal*, August 20, 1887) who finds in these waters an almost infallible remedy, "suitable to diseases of the nervous system in general, such as neurasthenia, hyperæsthesia, chorea, neuralgia, neuritis, dyspepsia, amenorrhœa and dysmenorrhœa of nervous origin, impotence, sterility, and hysteria, cerebral hyperæmia and anæmia, melancholia, paralysis, and cephalalgia"; and who subsequently adds locomotor ataxia to his remedial lists, and farther appends the theory that the direct action of the water upon "the nerve-centres of the pelvic viscera" is capable of rectifying malpositions of the uterus. In "hemiplegia" (irrespective, from anything that appears, of its cause), beside the internal administration, the water is used as a douche to the paralyzed parts. The curative results in the majority of instances are attributed to half a dozen glasses per diem of the product of Spring No. 1, and one is tempted to ask which is the operative constituent in each glassful. Is it three-quarters of a grain of Epsom salts? or two-fifths of a grain of alum? or one-fiftieth of a grain of sulphate of potash? or one grain of gypsum? or two grains of carbonate of lime? or one-thirteenth of a grain of carbonate of lithium? or one-fortieth of a grain of carbonate of iron? or one-sixteenth of a grain of table salt? or one-twelfth of a grain of chloride of silicon? Where anæmia is marked, from two to four ounces of Spring No. 3 are advised as an adjuvant, containing nothing measurable by ordinary standards except one-twentieth to one-tenth of a grain of carbonate of iron (the minimum dose of which in other media would be five to ten grains); while for cerebral hyperæmia or general hyperæsthesia No. 2 offers the advantage of one-twelfth of a grain of carbonate of barium, if it be not antidoted by the associated sulphates. Lithia has long been prescribed for uricæmic conditions, but in rather larger quantities than are obtainable from the maximum use of the much advertised Spring No. 2, of which the suggested extreme of eight glasses a day supplies seven-eighths of a grain; and although it is possible that the prolonged ingestion of even such small amounts may have some chemical effect, there is no conceivable reason why they should not be at least equally efficient without the chalk or gypsum.

Hardly less multifarious merits have been ascribed to other spas by their respective advocates. Kreuznach has been credited with curing displacements of the womb, scrofulous ulcers, mammary hypertrophy, uterine myoma, and very various ailments beside; Harrowgate and Baden, with scarcely anything else in common, are both alleged to benefit phthisis; Aix-la-Chapelle, though confessedly producing little effect internally, claims for its external application wondrous influence over uterine disorders, scrofula, and chronic mercurial or saturnine poisoning; Carlsbad is recommended for diabetes, nephrolithiasis, tropical liver, malarial toxæmia, chronic cystitis, hypochondriasis, or rheumatoid arthritis. In fact, almost every fount of triflingly contaminated water in the world has its duly attested assortment of victories over diverse, not to say opposite, pathological conditions; and to such an extent has superstition overborne reflection that an authoritative teacher advises the optional prescription of either *ad libitum* saccharated carbonate of iron, "as much as can be taken on the point of a knife," or a course of a chalybeate water containing a fraction of a grain of the same salt, or of the still less medicinal oxide (Immermann); and the not otherwise timorous Trousseau warns his readers against the possible perilousness of hydrological medication.

If one look beneath the analytical figures based on large volumes, and calculate the proportions actually administered, the conclusion is in most instances inevitable that either the entire literature of materia medica and pharmacology is false, or the beneficial results of "courses" at sundry spas must be due to something else than the mineral substances imbibed. In the appended table, reduced from more or less reliable published analyses, the doses in an ordinary glassful from a few of the most notorious springs are shown, and a glance at its columns will suffice—save as regards the saline cathartics—to render the examiner either a skeptic or a homœopathist. Some of the ingredients are absolutely inert in any doses whatsoever, while of those to which the therapeutic imagination can attach significance chloride of sodium is predominant. Virtually, the waters may be classed as solutions of table salt or of carbonate of soda, which could be extemporaneously mixed at home without much trouble. The gaseous contents may be dismissed from consideration as far as any known curative action is concerned, although carbonic acid is a refreshing and digestible addition, as the patronage of "soda fountains" and "Apollinaris" attests. Whatever may be the efficacy of sulphuretted hydrogen *per anum*, we have no evidence of its action *per os*, and even Dr. Bergeon would probably not expect much from it alone, and in the doses and manner of Aix or the White Sulphur; whilst no air-breathing animal is likely to be materially affected by the absorption of a few more cubic inches of nitrogen. In the matter of lithia, it is a curious circumstance that the waters of Baden Baden, which are said to contain more of this substance (and less of anything else) than those of any other watering-place, are seldom drunk by visitors, but are principally employed for bathing, their scalding temperature (ranging up to 160°) rivaling that obtainable from a kitchen boiler. Hot baths also constitute the chief feature at St. Sauveur, Aix-la-Chapelle, Carlsbad, Baden, and Bath, in all of which the heat considerably exceeds 100°. In properly selected cases, rarefaction of the air may have a large part in therapeusis at a few mountain spas, from St. Moritz, with six inches lower barometer than at the sea level, or St. Sauveur, with a reduction of three inches, down to the minor elevations of Sharon, Carlsbad, or Schooley's Mountain, where, though the barometric retraction is less than an inch and a half, the atmospheric pressure is diminished by about 100 pounds to the square foot, or 1,600 pounds on the entire surface of body.

If it be remembered that (outside of circulars addressed to the laity) the domestic consumption of any except the purgative or strongly alkaline waters is not alleged to work the wonders achieved by residence at the source, and, farthermore, that the authenticated benefits are obtained in functional disorders, not in organic disease, the explanation of the mystery is not so far to seek. Change of scene and freedom from household or business worry, regular habits of life, pure air and gentle exercise, simple diet, and the systematic washing out of the emunctories by specified draughts of reasonably pure water (containing sometimes less mineral matter than that habitually drunk at home), are likely to improve the physiological operations of any save a hopelessly deranged organism. The conventional routine at a well-conducted spa involves early rising, one or two glasses of water, and a moderate amount of pedestrianism to get up an appetite for a wholesome breakfast, between which and an early dinner the time is occupied out of doors with exercise apportioned to the strength, fol-

GRAINS TO A GLASSFUL (HALF A PINT) OF A FEW MINERAL WATERS.

	Magn. Sulph.	Magn. Carb.	Magn. Chlor.	Magn. Brom.	Calc. Sulph.	Calc. Carb.	Calc. Chlor.	Sod. Sulph.	Sod. Carb.	Sod. Chlor.	Sod. Iodid.	Pot. Sulph.	Pot. Carb.	Bar. Carb.	Alum. Sulph.	Iron.	Lithia.	Silica.	SO_3	CO_2 Cub. In.	H S Cub. In.	N Cub. In.
Kreuznach	....	.	2.	0.125	....	....	6.5	....	....	34.3	....	....	....	....	....	0.083	....	....	....	....	.	....
Friedrichshall	19.5	.	15.	....	5.	....	....	23.	....	30.5	....	....	....	....	....	....	....	....	....	2.66	.	....
Kissingen	2.	.	2.5	....	....	4.	....	....	....	22.5	trace	....	....	....	....	trace	trace	....	....	20.5	.	....
Saratoga Congress	....	4.785	....	....	....	4.905	....	....	0.449	19.25	....	....	....	....	....	0.254	....	....	....	15.55	.	....
Saratoga Union	....	4.213	....	....	....	2.1	....	....	0.64	12.18	....	....	....	....	....	0.272	....	....	....	15.7	.	....
Cheltenham	4.4	.	....	....	1.8	....	....	5.	....	20.	....	....	....	....	....	....	....	....	....	1.	.	....
Selters	....	2.9	....	....	....	1.7	....	....	2.4	10.95	....	....	....	....	....	....	....	....	....	6.	.	....
Balston	....	1.955	....	....	....	2.17	....	....	0.633	7.19	0.065	....	....	....	....	0.297	....	0.05	....	....	.	....
Sharon	1.7	1 2	....	....	4.27	....	....	....	....	0.13	....	....	....	....	....	....	....	....	....	....	1.025	....
Aix-la-Chapelle	....	.	....	....	....	0.499	....	0.998	2.189	11.37	....	....	....	....	....	....	....	0.27	....	7.	0.497	12.75
White Sulphur	2.235	.	....	....	3.097	0.46	0.082	....	....	0.07	....	....	....	....	....	trace	....	....	....	0.1	0.125	0.18
Harrowgate	....	0.4	....	....	....	....	1.6	....	....	38.	....	....	....	....	....	....	....	....	....	0.476	1.25	0.29
Oak Orchard, N. Y	0.414	.	....	....	1.98	....	....	....	....	....	....	....	....	....	....	0.716	....	0.052	4.15	....	.	....
Brighton	....	.	....	....	1.65	....	....	....	....	0.61	....	....	....	....	....	0.72	....	0.053	....	1.	.	....
Schooley's Mt., N. J.	....	0.16	....	....	....	3.196	0.96	....	....	0.17	....	....	....	....	....	0.8	....	0.32	....	....	.	....
Vichy. Grand Grille	....	0.323	....	....	....	1.34	....	1.81	18.75	2.19	....	....	....	....	....	0.003	....	0.28	....	3.48	.	....
Vichy. Hôpital	....	.	....	....	....	....	....	....	19.30	....	....	....	....	....	....	....	....	....	....	4.10	.	....
Vichy. Célestins	....	.	....	....	....	....	....	....	19.59	....	....	....	....	....	....	....	....	....	....	4.02	.	....
Vichy. Hauterive	....	.	....	....	....	....	....	....	18.45	....	....	....	....	....	....	....	....	....	....	10.46	.	....
Bedford, Pa	4.	.	....	....	0.75	0.4	....	....	....	0.5	....	....	....	....	....	0.31	....	....	....	3.7	.	....
Seidlitz	72.	1.	1.8	....	2.	0.32	....	2.4	....	....	....	....	....	....	....	...	....	....	....	....	.	....
Carlsbad (Sprudel)	....	.	....	....	....	1.66	....	10.	4.7	4.	....	4.5	....	....	....	trace	....	....	....	4.	.	....
Baden	....	.	....	....	5.	....	....	....	....	6.5	....	....	....	....	....	....	....	....	....	11.	odor	62.5?
Bath	....	.	0.616	....	3.95	0.39	....	0.816	....	0.59	....	0.174	....	....	....	0.039	....	0.14	....	....	.	....
Baden Baden	....	.	....	....	1.25	....	....	....	....	9.	....	....	....	....	....	0.05	much	....	....	0.24	.	....
Buffalo Lithia, No. 1	0.076	.	....	....	0.962	1.964	....	....	....	0.063	....	0.023	....	....	0.409	0.025	0.074	0.086	....	3.45	0.29	....
" " " 2	0.044	.	....	....	1.653	0.748	....	....	....	0.246	....	....	1.46	0.087	0.453	0.015	0.112	0.094	....	2.96	0.41	....
" " (℥iv.) " 3	0.004	.	....	....	0.084	0.063	....	....	....	0.005	....	....	0.046	....	0.076	0.094	trace	0.014	....	0.29	0.08	....

"Traces" of a few inoperative substances, not coming under the above headings, have been omitted.

lowed by an ante-prandial *dolce far niente;* after a digestive pause, more open air strolling or riding amid picturesque scenery, pleasant companionship, amusements of various kinds, a light evening supper, and retirement to sound sleep at about ten o'clock. Whether such a diary be or be not interspersed with two or three more glasses of water, at times when they will not interfere with digestion, is probably a subordinate consideration as regards its health-restoring influence.

ARTICLE II.

A PAPER ON THE SANITARY CONDITIONS AND NECESSITIES OF SCHOOL LIFE. By C. W. CHANCELLOR, M.D., Secretary of the Maryland State Board of Health.

Read before the Maryland State Sanitary Conference, November 16, 1887.

INTRODUCTORY.

The systematic development of man's physical, moral, and intellectual being is a subject worthy the attention of all men, and especially of the sanitarian, who is concerned in every thing that affects the public health.

Looking upon the child of to-day as the future man or woman, it is incumbent upon us to consider well the health of the one as an essential condition to the full development of the other; and as the *mens sano in sano corpore* is an indispensable condition of all education, it behooves us to instruct, as far as possible, the rising generation in those principles which are recognized as necessary to the maintenance of a high standard of physical health, in order that the powers of the mind may not be debilitated and dwarfed by a diseased and exhausted body.

We shall consider the necessity of modifying our present school system under the following heads:

1st. The school-house.
2d. The age at which education should begin.
3d. The hours to be devoted to study; and
4th. The programme of studies.

THE SCHOOL-HOUSE.

Notwithstanding the advances which have been made in sanitary knowledge of late years, hundreds of school-houses, and those not always small schools in rural districts, still present the most deplorable and insalubrious arrangements. Nothing can be more distressing than the thought that so many thousand children, who are to act their part in life at some future period, should be, under any circumstances, deprived of the best means of acquiring that intelligence, and of forming those habits which will tend to guide them through life's difficulties with safety and advantage.

Children pent up in an unsuitable, unventilated school-room, gasping for a purer atmosphere, and seeking from ignorance that which knowledge can scarcely diffuse, unless it be endowed with a strong sympathy for humanity, is a picture well calculated to arouse public attention. It not unfrequently happens that a large number of pupils are huddled together in an area much too small for either comfort or health, where they receive the seeds of disease which develop, with fatal consequences, in later life. The teachers, it may be, are ignorant of the depressing and unhealthy effects of the vitiated atmosphere which surrounds them, and do not always consider it desirable that their schools should be better ventilated.

It is obvious that the work of education cannot possibly be carried on with advantage unless suitable school-houses are provided. Wherever it is practicable, the house should be made to unite convenience and comfort with as large a degree of beauty and elegance of design as is consistent with the objects and purposes of such description of building. This may generally be accomplished with so small an addition to the cost of erection as scarcely to form an object of consideration.

A sufficiency of light, and of space, and proper ventilation are essential for every school-room. It has been observed that confusion and disorder are always greatest in those schools which are most deficient in these particulars. In addition to the restlessness and inattention of the children, the difficulties which the teachers have to contend with in other respects, as a consequence of such defects, tend to distract their attention, exhaust their energies, depress their spirits, and increase their irritability to an extent of which they themselves are not at all aware.

In the elaboration of a project for a school building, health should be the first consideration; and, in the choice of a site, the questions of salubriety, tranquility, security and morality should never be sacrificed to appearances or economy. Many school-houses are badly located; some in proximity to noisy industries which disturb the tranquility of the classes; some in the midst of clouds of smoke, which impairs the purity of the atmosphere, and others in the neighborhood of influences unfavorable to health and morals.

A school for children should be a place where the child may exist in good air and happiness, without having either body or soul exposed to any deleterious influences. It would, indeed, be a blessing if our public schools, like the great schools of Athens in which Plato and Aristotle taught, were located on suburban sites, with free trains or coaches to convey the pupils to and from them. Education would be, under such circumstances, received amid the best conditions of moral and physical health, and the casket would not become, as is now too often the case, broken and worthless ere the jewel has shown its greatest brilliancy.

It is in the school-room that the first lessons of human life, the incipient principles of morality, and the rules of social intercourse, are to be impressed upon the plastic mind of youth. Here the boy receives the impress of his permanent character, and imbibes the element of his future career; here instinctive delicacy, the characteristic element of woman, should be taught and expended into maturity by precept and example. Our schools are objects worthy of all efforts, and nothing should be left undone which will tend to make them more excellent and more useful.

The principal requirements in connection with the location of a school building may be summarized as follows:

1. The situation should be central, easy of access, well aired and exposed to the sun, remote from noisy or uncleanly neighborhoods or surroundings, and free from immoral influences and dangers to health.

2. The building should be, if practicable, elevated above the surrounding houses, and the lower atmosphere of the city, which is usually loaded with impurities.

3. A soil of sand, slate, or gravel is always to be preferred; but if this cannot be had, the necessary condition of dryness must be secured by sub-soil drainage; and even with this precaution the first floor of the building should be raised some distance above the ground, in order that a bed of pure air may be interposed between the earth and the floor of the building.

4. School-houses, more than other buildings, require exposure to the sun. Light exercises on living beings, as on plants, a remarkable and well-defined influence, which favors in them a healthy action of the nervous system. A sombre room blunts the moral and intellectual, as well as physical, life, and induces drowsiness, indolence, and stupidity. "The human plant more than any other," says Paul Bert, "requires for its full development pure air and abundant light."

THE AGE AT WHICH EDUCATION SHOULD BEGIN.

Philosophers and educators differ as to the age at which the instruction of youth should begin. Quintilian recommends three years; Plato six; Aristotle seven; Pestalozzi twelve; and Chrysippus asserts that parents may instruct their children at all ages. Aristotle observes that nothing can be more reprehensible than to exact too much from children at an early age, for "great fatigue of body will injure the mind, and over-exertion of the mind is prejudicial to the body."

Dr. Jacobi, after a careful examination of the growth and development of the child, fixes the school age at the end of the seventh year; and Hufeland, in his work "On the Art of Prolonging Life," says: "All labor of the mind which is required of children before their seventh year is in opposition to the laws of nature, and will prove injurious to the organization and prevents its proper development." Spurzhein and Broussais alike condemn intellectual labors during the early years of life, and agree that "*precocity of mind is nearly always disease.*" Tissot, a learned philosopher and practical physician, says: "No custom is more improper and cruel than that of some parents who exact of their children much intellectual labor and great progress of study. It is the tomb of their talents and their health."

The New York Medico-Legal Society, organized for the purpose of instructing the public upon hygienic subjects and correcting hygienic abuses, fixes the time of beginning school at the eighth year, and would make three hours the maximum daily attendance for primary pupils; and the State Medical Society of Rhode Island has passed a resolution that "No child should be admitted to the public schools as now conducted under seven years of age."

But if the experience of philosophers, teachers, and physicians is not enough to convince us that both bodily and mental development are arrested or disturbed by exercising the mental faculties before the seventh or eighth year, let us look to another and an unerring source for information. Philosophy marks plainly the beginning of the eighth year as the time for the beginning of school life. The symmetrical proportions of both the body and head are reached during the eighth year, and remain stationary after that time. The rate of mortality during the first six years of life is 51.28 per cent., or leaving out the first two years of life, as it would not be fair to reckon the feebleness of infancy, the mortality is, according to Summaring, 11.8 per cent.; for the next six years of life it is only 1.5 per cent., thus showing that a greatly increased power of resistance, or a greatly diminished susceptibility to noxious impressions, is attained about the seventh or eighth year.

In Baltimore school life begins at six years of age. It were idle for one to attempt to reconcile theory with this practice. I was myself for several years a member of the Board of School Commissioners of this city, and I know from personal experience how difficult it is to control the matter. Many parents send children to school to be rid of them, and would complain if they could not do so. But, at the same time, I must believe if the parents are to blame in this matter they should be set right, and we, as sanitarians and educators, should help to teach them that before the age of eight—certainly not before the age of seven—school life, with its confinements, its lessons, and its mental efforts, should not begin. Before that age much may be taught and learned—much is taught and learned in all intelligent homes. To this age belongs the Kindergarten system, with its play, studies, its exercises, its singing, its drawing, its comparison of objects, which awaken attention, excite interest, develop power, and inculcate knowledge without restraint, without compulsion, and without fatigue.

Pestalozzi, the foremost of all the educators of the world, assumed as a fundamental principle that education, in order to fit the child for his destination in life, should proceed according to the laws of nature —that it should not act as an arbitrary mediator between the child and nature, but should assist the course of natural development instead of doing it violence—that it should watch and follow, instead of attempting to mark out a path agreeably to a preconceived system. He opposed the undue cultivation of the memory as hostile to true education, the essence of which he considered the harmonious and uniform development of every faculty, so that the body should not be in advance of the mind, and in the development of the mind neither the physical powers nor the affections should be neglected.

The experience of actual life tells us that some of the best minds the world ever had enjoyed very few advantages for education early in life, or showed but little aptitude for study while at school. Napoleon did not show any special superiority at school; Isaac Newton ranked very low at school until after the age of twelve; Walter Scott was roaming the fields and spearing salmon during school years; and the mother of Sheridan pronounced him the dullest and most hopeless of her sons. Molière, Gibbon, Franklin, Davy, and a host of other brilliant minds, knew little or nothing of books until they had passed ten years of age. Mr. Paldamus, Director of the High School of Frankfort, Germany, declares in the most emphatic manner that "Education too hastily acquired, *i. e.*, at too early an age, is destruction to the health and future mental development of the child." He states that children who enter school at seven or eight years of age, without having received the least instruction previous thereto, will progress much more rapidly in their intellectual development than children who have been undergoing preparation since the age of four and five, and he advises strongly against children receiving any instruction at home or otherwise until they have attained at least the age of seven.

The mind and the body are so closely allied that the solid invigoration of the one helps the other, and the impairment of the one is apt to damage the other. Every physician has observed how much injury is done young children by the "cramming" system pursued in some of our schools. If the intention is to break down the mental and bodily faculties, it is duly accomplished by this system, especially in young girls; but if it is intended to invigorate mind and body, the system is unquestionably a failure.

THE HOURS TO BE DEVOTED TO STUDY.

The teachings of physiology and experience concur in showing that the mental work demanded of a child up to the age of twelve should be very moderate and below the ordinary demands of our schools. Two hours in the morning, and two in the afternoon, five days in the week, may be passed in a well-ventilated school-room without injury to health; but the condition in regard to ventilation is essential to the truth of the proposition. If the room is poorly ventilated, and the air foul within, then what would be a just amount of mental work becomes excessive. Teachers generally maintain that six hours a day is not too much for children under twelve years of age, for we are told they do not *study* during all the six hours they are in school. The fact that they are in the school-room this length of time is enough. Confinement six hours a day is too much for any child under twelve years of age. The State Medical Society of Rhode Island says that under twelve years of age three hours a day in school is enough. Baginskey, the author of a valuable treatise on school hygiene, published in Germany a few years ago, says that eighteen hours per week is enough; and Dr. Newell, in a paper read before the American Social Science Association, says that "for children of ten or twelve years the capacity for bright and voluntary attention is exhausted by four varied lessons requiring mental effort of half an hour each, with intervals of relief in the forenoon. In the afternoon this capacity is reduced one half. Two hours in the forenoon and one hour in the afternoon, is as long a time as children can be profitably employed in school."

To sustain my position that for children of twelve years, and less, six hours daily in school is too much, and not necessary for all the advance in learning which they at that age can make, I appeal to the results of a trial made with my own children, a boy and girl now twelve and thirteen years of age respectively—not for the purpose of testing this matter, but for other purposes—which has yielded the strongest evidence bearing upon it, with results that surprise every one. With the exception of very brief periods, they have never attended school regularly, but have been taught by private instruction, lasting generally from one to two hours per day, five days in the week. Following this plan, the result is that they are already well up in geography, arithmetic, and other English branches. They read, write, and speak fluently the French and German languages, and translate fairly Italian. They are also at this time making excellent progress in Latin and Greek, geometry and the natural sciences, including lessons in microscopy. All of this has been accomplished by an average of less than two hours of study per day, for five days in the week, and nine months in the year, since they were eight years of age. When they were eight years of age they scarcely knew the English alphabet. Another illustration of what can be accomplished by attending school a few hours daily, is to be found in the English *half-time* system. The name of "half-time" is given in England to a system of schooling provided by law for children employed in factories and work-shops. By means of it these children have secured to them, for daily study in school, one-half of the number of hours spent in the Government schools by children not at work. This system has been in operation for a number of years, and full reports of its working have been made to Parliament. Now, the result which has surprised everybody is that these *half-time pupils learn quite as much as the children who are in the same schools twice as many hours a day.*

(Touching this subject and the above statement, the reader is referred to a paper by Dr. I. C. Reene, read before the Teachers' Institute of Ohio, on "The Brain and Nervous System in Their Relations to Teaching and Learning," and also to the Report of the Massachusetts State Board of Health, for 1874.)

On the subject of study out of school hours, it may be remarked that while it is important that the pupil should have some preparation to make, requiring the exercise of his own resources, it is not less important that the amount of private study, so to speak, should not be carried to the point of harassing the pupil. In assigning tasks for out-of-school study, the teacher should select subjects known to the pupil, and which will not be difficult for him to master. Parents and others should not be encumbered with the labor of teaching the child *at home* that which should be taught in the school. The practice of assigning children lessons to be learned out of school hours as a punishment for some misdeed, is greatly to be condemned.

The practice of requiring children from seven to ten years old to be present at the school-room at eight o'clock in the morning, particularly in the winter, is tyrannical and hurtful. It often happens that the child has to be aroused from a profound sleep. He breakfasts hurriedly, runs to school with an incomplete toilet, and trembling with fear lest he arrive too late. Not unfrequently the child is subjected to punishment for being late, when domestic duties may have required later hours than usual the night previous. How can it be expected that young children fatigued by labor beyond their years and strength, having slept, it may be, only half the requisite number of hours, arriving at school with an empty stomach, or a breakfast hastily swallowed, and the dread of punishment for being late, will give proper attention to their lessons? Children in poor mental or physical condition should not be required to prepare regular lessons, either in or out of school. In such a condition study is a torture to them; and so far from gaining anything by it the time is lost; their faculties are blunted and their lives made miserable.

The most elementary works on physiology teach us that children require regular and abundant sleep to repair the waste of their active life, and this should never be unnecessarily or ruthlessly abridged. A child who worries over a lesson at night, is likely to go to bed with his brain partially congested, and his sleep will be disturbed by dreams, and rendered unrefreshing.

Few children are capable of fixing their attention for any length of time upon an object of mental pursuit, unless they are really interested in it, and, therefore, the first duty of the teacher is to interest the child in his studies, which can be accomplished more certainly by introducing *variety* into the studies than in any other way. There is nothing so stupefying to the mind as the task which is often assigned children of writing long extracts from history, geography, arithmetic, etc., either as a punishment or a task. It makes the child a mere machine; his mind sleeps while his fingers stiffen, and bodily fatigue induces intellectual exhaustion.

The severe discipline of the school-room which compels a child to remain, as it were, glued to the benches, through many consecutive hours, should be occasionally relaxed by pleasant promenades or gymnastic exercises. Excursions into the country once in every week would tend not only to maintain health, but would awaken an interest in a large number of subjects which would otherwise be neglected. They would develop the faculty of observation, and be valuable lessons in natural history, by familiarizing the child with, at least, the more ordinary plants, and many of the vegetable productions which are used for food, medicine, and in the arts and industries. The unrestrained association engendered by such peripatetic lessons or weekly excursions into the country, would awaken sentiments of mutual accord and loyal companionship between teacher and pupil, and would be looked forward to as a period and source of much pleasure, which to be deprived of would be a greater punishment to the child than the barbarous tasks sometimes imposed as a punishment, and which are alike injurious to health and character.

Another important consideration in school discipline, so far as the health of the pupil is concerned, is the pauses or intermissions between lessons. The maintenance of a "sound mind in a sound body" depends upon a wise and regular succession of work and repose. After each hour of lessons there should be an intermission of at least ten minutes, during which pause the children, if well, should be required to go into the yard, and the school room aired during the time, by opening the windows and doors. A short intermission at the end of each hour of study is a hygienic measure of the first importance, which would often prevent the sacrifice of comfort and health. The longer vacations are intended to rest both teacher and pupil after active work; but, in order to be effective, they should be properly divided. In considering the hygienic side of the question, we would place the weekly vacation in the middle rather than at the end of the week. The weighty reason that one long rest is more convenient to both teacher and pupil than two short ones, has determined Saturday, generally, as the weekly vacation in most schools. But looking at the matter purely from a hygienic standpoint, a day in the middle of the week would be far better for these weekly vacations than Saturday, which is necessarily followed by another day of rest. As to other and longer vacations, their time and duration must be determined by circumstances.

THE CURRICULUM OF STUDIES.

Very different views are entertained as to the proper studies to be pursued in the schools. Notwithstanding the prejudices of physicians and hygienists against the practice of over-burdening children with a multiplicity of studies, the evil seems to be on the increase, for there is hardly a branch of human knowledge which is not now embraced in the programme of school studies, especially in fashionable boarding schools for young ladies. The pernicious system of "cramming" practiced in many schools, tends not only to blunt the intellectual faculties, but stifles the powers of conception, and develops among the pupils an unhealthy emulation and an abnormal zeal, which finally ends in physical deterioration.

The curriculum may, without doubt, be so arranged as to embrace quite a number of studies, without taxing too heavily the intellectual or physical endurance of the pupil. "The height of academic education is," says Mr. Paldemus, "the love of study and the power of giving one's self up to it." The study of grammar, as it is usually pursued in the schools, should be less insisted on; speaking and writing a language is the true method of acquiring a knowledge of its grammar.

The classic authors should be considered and explained from an æsthetic point of view, that is, by pointing out their beauties, together with the lofty ideas and noble sentiments which they contain. So in history: Let the various characters be passed in review, together with the manners and important events of different epochs, taking care not to engender in the pupil an aversion to this useful branch of education, by requiring him to commit to memory, mechanically, as it were, long lists of names and chronological dates, etc.

Where there is an extensive and varied curriculum, it is important in the interests of health, that a certain rotation be observed in the recitations. A lesson in writing should not be followed by another *written* lesson; nor a lesson in singing by a reading lesson, but they should be so alternated as to give the pupil an opportunity to change his position, and obtain necessary rest by such changes.

The time fixed in most schools for the final examination, viz.: at the end of the scholastic year, presents serious objections and inconveniences. It would be much more reasonable to hold the examinations *at the beginning* of the scholastic year, when pupils could without labor or effort undergo the ordeal. Under the present system the pressure begins with the last quarter of the school year, and then we notice a manifest and feverish emulation, which too often eventuates in impaired health, especially with young girls. The nearer the approach to the time of examination the more the teacher presses the pupil to exertion, in order that his class may be distinguished above others, and be commended by the school authorities. This activity, which is more noticeable in girls than boys, is often further incited by parents, and frequently results in serious nervous affections. It is not rare to find school girls suffering from nervous prostration, fainting spells, nasal hemorrhages, St. Vitus dance, etc., as a result of over-exertion at this time. Some reform in this respect is absolutely demanded, and this may be best attained by quarterly or even monthly examinations.

Mental overwork, and the bad hygienic condition of the schools of our country, have recently aroused a great deal of discussion among physicians, sanitarians, school directors and teachers, all of whom agree that scholars should not be forced along in large classes without regard to their differing attainments and mental capacities. In future times, when the light of science shall be more widely diffused, the records of our present school system will exhibit no enviable view; but it is not easy to say how existing evils are to be avoided. If legislation could reach and remedy these evils, the law-making power would be earnestly invoked. But where the ordinary mandates of humanity, and the laws of parental feeling, written by the finger of heaven on the human heart, are obliterated, all statutory provisions would be idle and vain. Still the effort to do something in this direction must not be abandoned. It has been suggested that, one way to do something will be to educate those who regulate such matters to the understanding, that "wisdom does not come with much knowledge, and that knowledge does not come with many studies." The following propositions are submitted for the consideration of the conference:

1. That the attention of the public authorities be called to the necessity of modifying the present system in our schools so that it shall conform to hygienic laws, and the requirements of the physical developments of the pupils.

2. That boarding schools and colleges should be established in the country; that in all schools a large open space ought to be reserved for recreation; that the class rooms should be improved as to space, light and air.

3. That the course of study should be simplified, and the time allotted for play and sleep should be lengthened for young children.

4. That for all pupils, the time devoted to study and in the classrooms, that is to say, the time during which the pupils are seated, should be reduced, and the time for recreation and exercise proportionately increased.

5. That it is necessary to submit all the pupils to daily exercise in physical training adapted to their age—such as walking, running, jumping, calisthenics and gymnastics, fencing, and other kinds of sport.

ARTICLE III.

ETIOLOGY OF ZYMOTIC DISEASES. THIRD PAPER. WATER AND MILK. BY M. A. RUST, M.D., Richmond, Va.

(Read before the Medical Society of Virginia, October, 1887.)

In the first paper on the "Etiology of Zymotic Diseases," which I had the pleasure of reading before you in 1885, I took a cursory view of the development of the germ theory from its rise to the present day; in the second paper, (Session 1886), our daily relations with the saprophytic bacteria were commented on.

I have given my reasons in the former papers for dwelling first on the common bacteria by which we are, especially in great cities, constantly surrounded.

In cities man is incessantly preparing, through ignorance or slovenliness, greed or perversity, the soil most fit for the propagation and multiplication of saprophytic or putrefactive bacteria. He has created for himself such scourges as typhoid fever, yellow fever, scarlet fever, diphtheria, cholera, etc., all of which stand in connection with foul air and putrefactive processes.

Wherever bacteria exist and live in putrescible substances their life process manifests itself by splitting up the organic combinations into their simple chemical elements which partially re-enter into new combinations, often of a most poisonous character. When the gases which develop in this process become offensive to our senses, we call the process "putrefactive," though the same process may run its course without the emanation of bad odors.

I am by no means inclined to undervalue the services of the nose as a sentinal in the service of health, but feel bound to say that this precious organ is found inadequate to give warning against the approach of danger from bacteria. Your noses do not smell the nastiness of your domestic modern improvements, nor the abominations which are lurking in your ornamented dwellings, from which your own thoughtlessness, your own or your neighbor's greed, has, by piling bricks upon bricks, excluded air and light. The vitiated, stagnant air in your modern houses may not, perhaps, harm you immediately, but, in midsummer, by the germs it holds suspended, it will, among other things, poison your children's food if allowed to stand in that atmosphere, and thus produce the various affections of the alimentary canal which decimate your families, and which are falsely attributed to the direct action of summer heat. Here we find ourselves landed at the point at which, in commenting on water and milk, I left off last year.

MILK.

In my paper of last year the second point on which I touched was *milk*. I need not enlarge on the value of milk as an easily assimilated article of food, which holds in solution and suspension all the essential tissue-forming substances, albumen, fat, casein, various salts, etc.; nor need I enlarge on the reverse of the medal, the incidental fact that milk occasionally appears as a carrier of disease. Each one of you will have read of—many of you will have personally observed—instances of the kind.

Milk, when it leaves a *healthy* cow's udder, is as pure as any thing in this unclean world can be; but so soon as it comes in contact with the outer world it becomes the abode of various species of bacteria. One of the first settlers is micrococcus lacticus, the manufacturer of sour milk. It never fails to visit milk, its germs being always present in the objects with which milk comes in contact. It begins work at once, converting part of the sugar of milk into lactic acid—the end product of its labor appearing as clabber, sour or curdled milk. Micrococcus lacticus, however, is not the sole producer of lactic acid. Hueppe describes four other bacteria which do the same kind of work in milk as well as in other saccharine solutions—in every substratum which contains grape sugar or glucose: in sauerkrout, cucumbers and other fermenting vegetables, also in beer (unless its acidity is produced by micrococcus aceti). Micrococcus lacticus also slips into our stomachs and propagates when digestion is faulty; here his fate mainly depends on the presence or absence of hydrochloric acid—hence he has fair play in the babe's stomach where this acid is never present. Among the inmates of the baccal cavity there are also bacteria which produce lactic acid from the fragments of food left between the teeth.

Far away in the mountain ranges and valleys of the Caucasus, there lives a kindred bacteria which, till very recently, unknown to us, has, since time immemorial, been engaged in converting the milk of sheep, goats, and cows into the much-valued drink called *Kefir*. This stranger, "Dispora Caucasia," was first introduced into European society in 1883, when *Dr. Kern*, on his return from the Caucasus, brought it to Moscow. This organism presents itself in the shape of *grains* of the size of a pea. When thrown into milk they swell to the size of a large walnut, and assume the appearance of a mulberry. The Kefir grain is not an individual, it represents an indivisible bacterial trinity—

an association of three different bacteria firmly united into a zoogloa by a gelatinous mass. This trio consists of: (a) *Micrococcus lacticus;* which converts part of the milk sugar into lactic acid. (b) A fungus of the class of the *saccharomycetes*, which splits up another portion of the milk sugar into alcohol and carbonic acid. (c) *Diosma Caucasica*, which forms the greater bulk of the Kefir grain and completes the remainder of the process by which the milk is converted into an effervescing, acidulated, slightly alcoholic drink of easy digestion universally used by the Caucasian mountaineers. Kefir is produced by the combined work of these three organisms which form a common household. This fact will not astonish those who are acquainted with the phenomnon of *symbiosis*, that is to say, the normal association of dissimilar organisms dwelling and living together in a common abode for the promotion of their mutual welfare.

Kefir always appears in a liquid state. The casein at first curdles into small flakes, which are soon dissolved, that is to say, *peptonized.* Diosma Caucasica does this work in a modest, silent way which contrasts favorably with the noisy style of peptone, manufacturer's pamphlets, in which a grain of science borrowed from a good author is wrapped up in pounds of nonsensical vapor.

The natives of the Caucasus keep the milk in goatskin bags wherein the bacterial trio permanently dwells. When the milk has been allowed to stay one or two days in these bags, it comes out as " Kefir," ready for use, is replaced by a fresh supply of milk, which is again converted into Kefir and so on. (The production of Kefir in bottles, can, by the repeated addition of new milk, be kept up for an indefinite time.) In consequence of the great demand their weight in gold has been paid for the Kefir grains, and the irate traders accused the mountaineers of conspiring to keep the source of those precious grains secret. In fact the simple mountaineers had no secret to conceal, science unveiled the mystery which, unknown both to traders and natives, lay hidden in those unsightly bags of goatskin.

We also note *bacillus prodigiosus* among the five species of bacteria which Hueppe found to be habitual dwellers in milk. Bacillus prodigiosus covers the milk with blood-red stains; its action is, however, rare, and requires for its manifestation the presence of great numbers of the organisms and a concurrence of favorable circumstances as yet but imperfectly understood. The color of bacillus prodigiosus itself does not produce the phenomenon which is due to the secretion by the organism of a red pigment. There are other fungi or algæ, etc., which produce this phenomenon, *e. g.*, the red snow in the polar region which is the effect of a luxuriant growth of certain algæ in the snow. (Nordenskioeld, exploration of the Arctic regions.)

Bacillus prodigiosus also produces blood-red stains on bread, boiled rice, potatoes, wafers, starch paste, on the excrements of certain mammalia, and may also tinge a small quantity of stagnant water, as it were, with blood color. The appearance of this blood-red pigment was observed in the remotest times, and was always regarded as something awful and supernatural. With this weird conception it is noted by several writers of antiquity.

The passage in Exodus VII., 20, 21, "and all the waters that were in the river were turned to blood," relating to masses of running water, is evidently a product of Oriental phantasy. Homer, Pliny, and Livy mention the phenomenon in a more sober manner as "dews of blood," "rains of blood," etc., appearing within very narrow limits. In the dark ages the phenomenon often created the wildest terror. The holy wafers being kept shut up in close boxes in the stifling air of gloomy churches, occasionally became the seat of bacillus prodigiosis. The aspect of the bleeding hosts drove the superstitious populace raving mad, and frequently gave rise to riots and massacres.

Bacillus syncyanium is another dweller in milk, in which it produces the oft-seen blue coloration. This organism is likewise found on boiled potatoes and other amylaceous articles of food.

All the above-mentioned dwellers in milk are generally harmless to persons with unimpaired digestive function. In great numbers they are apt to produce gastro-intestinal irritation, and may become fatal to the babe. By heating the milk to the boiling-point, even to 180° F., they are effectually destroyed.

There are other more dangerous species of bacteria which may appear in milk as occasional guests. Pathogenic germs from diseased cows, or from other sources, pass into the milk, which is thus rendered a carrier of disease. Since the discoveries of *Koch*, infection through the milk of tuberculous cows is a fact so universally admitted that we may pass it by. As regards the causal relation between milk and typhoid fever, scarlet fever, diphtheria, etc., the proofs of such a relation have not hitherto been sufficiently strong to convince every mind. In a paper presented to the International Congress, 1881, Dr. E. Hart collected the histories of seventy-two epidemics of typhoid fever, scarlet fever, and diphtheria, whose outbreak had been traced to contaminated milk. Still, one cannot fail to perceive loose meshes, here and there, in the web of evidence.

The proofs, however, which Drs. Power and Klein furnish in their late report (1886) regarding the Hendon (near London) epidemic of scarlet fever, caused by the milk of diseased cows, form an unbroken chain of confirmed facts.

Infection through milk is entirely preventable. Hygiene and antisepsis in the dairy are the means of which I shall have more to say later on. It will be a long time before this is generally acknowledged and acted upon. In the meanwhile the consumer of milk has it in his power to protect himself efficiently against infection by simply sterilizing the milk by *boiling*. With the light shed upon this subject within the last decennium, we can only wonder that raw milk is not as generally eschewed as raw meat.

It has been repeatedly observed in the course of epidemics emanating from dairies, that persons in the same locality who consumed *raw* milk were attacked by the disease, whilst those who used the same kind of milk *boiled* escaped infection. Casting a glance over the reports of epidemics from different countries, we find milk epidemics occurring most frequently in countries where the milk is used raw, and rarely in countries where they boil the milk. This boiling is not the outcome of superior hygienic wisdom, but is done in obedience to old household customs—to kitchen traditions. The German who boils his milk indulges in raw ham and uncooked sausages, and gets trichinosis. Bismarck was perfectly right when he scorned the pretension of the American pig to be free from trichinæ. The American pig is as apt to have trichinæ as any other mortal pig. And if trichinosis in this country is of comparatively rare occurrence, it is due to the American kitchen tradition, which enjoins boiling the ham for several hours. This old kitchen tradition comes near to the scientific rule requiring half an hour's boiling for every pound of meat, after it has begun to boil.

Besides the disease germs, which are only occasional guests in milk, there are the various species of common, saprophytic bacteria, which visit the milk as soon as it leaves the cow's udder. They come from the air of the stable; from the clothes, the hands and fingers of the milkers; from pitchers, cans, pails, and other vessels and utensils with which milk is brought in contact; from the rags or towels with which the vessels are wiped; from the filthy water with which they are rinsed and soiled, instead of cleansed; from the vitiated air of rooms, pantries, cellars, ice-boxes, in which the milk is kept before it reaches the consumer. Sanitary examination of the milk before delivery, as now instituted in many cities, may, at the best, discover adulteration and fraud. The more dangerous, subtle poison—the minute germs with which milk is often contaminated—escape detection.

There is but one way of securing pure milk; that is, to place the whole management of the dairy under the guidance of a responsible medical or sanitary director.

A sanitary management of this kind would necessarily raise the price of milk to double its present rate. But do we not see anxious mothers in despair of procuring pure milk gladly pay three and four times the nutrient value of milk for various so-called "infant foods," trusting that those articles may be what the pamphlets say they are?

The most serviceable among manufactured foods is *condensed milk.* The heating which it has to undergo in the process of evaporation destroys the germs, whilst the great quantity of sugar added seems to be antagonistic to bacterial development. However this may be, till lately no impurities have been found in condensed milk. Now and then a spoiled can was met with, but it was held that such a can had been kept in the retailer's store for a length of time.

A few months ago, however, Klein detected in a certain brand of condensed milk (the London "Rose" brand) organisms which by cultivation produced colonies of micrococci identical in every respect with those of the Hendon scarlet fever epidemic. True, this is an isolated fact, but a fact which calls for diligent and frequent examinations of all brands of condensed milk.

Supposing, now, the ideal, sanitary dairy a reality, and the bottled milk delivered to the consumer in a state of purity; that milk when kept in an airy place in healthy surroundings at a temperature of 60° F. will preserve its purity for some time. But let it come in contact with the vitiated air of the sunless city habitation—be it in the slums of abject poverty, or in the sumptuous residences of the rich—that milk will be quickly contaminated. The germ-laden air of the city house, especially if warmer than the milk, will condense and deposit on the milk the impurities it holds in suspension. And no sooner is the milk warmed up by the surrounding air than the germs begin to develop and multiply in ever-increasing proportions. The milk-pitcher in the cupboard or ice-box fares no better; and a cup of milk set in a sick-room will not fail to absorb the disease germs floating in that atmosphere. As soon as a glass of ice-water is brought into a warm room, the whole surface—glass and contents—will be instantaneously covered with dew, this dew being the moisture which the air, chilled by contact with a cooler object, can no longer hold in suspension. If we collect a drop of this dew we shall find therein specimens of the matter floating in that air.

As for the remedy, we must again harp upon that most simple and efficacious corrective, *boiling!* Forsooth the steaming milk-pot will greatly add to the salvation of men and the pleasure of the gods. Why it does not steam in every city household, now that physicians know or ought to know, its purport, is almost a problem. But why do we wonder, when even a voluminous standard work—Edmund Parkes' "Manual of Practical Hygiene," (American edition, 1883—has nothing, or well nigh nothing, to say on the subject?

Milk, after being sterilized by boiling, may be cooled down to 60° F., and remain pure for some time; again exposed to the same impure atmosphere, the same vitiating process will begin anew and boiling has again to be resorted to.

Buttermilk I never recommend for infants, invalids, or persons with impaired digestion. There can be no objection to buttermilk as buttermilk; it is milk less the fat containing all the other nutrient elements of milk. But buttermilk can not be subjected to boiling, and who can, in each case, trace the history of a jug of buttermilk, bought on the street or in a store, from the moment when, in a filthy stable, the milk left the cow's udder, was milked into tainted vessels, placed to set in a cellar, closet etc., still more polluted than the stable, shifted and re-shifted, and finally had churned into it and stirred into it the living noxious matter floating in the surrounding air?

I have repeatedly seen gastric disturbances, vomiting, and purging, follow a draught of buttermilk from a doubtful source. In all these cases a full dose of castor oil speedily put an end to the disturbance.

Matters are still worse as regards manufactured or store ice-cream. Shall we propose a perplexing culinary novelty—stewed or fried ice-cream—like that monstrous product of Chinese high kitchen art—fried ice? But if boiling is destructive to bacteria, it does not affect the poisonous ptomaine which so often forms in manufactured ice-cream. Not a summer passes without numerous cases of wholesale poisoning by ice-cream. We find them reported by hundreds in the newspapers from all parts of the country; and in proportion, as the fashion of eating ice-cream spreads, their number increases with every season. I began to collect them, but desisted for want of time and facilities. I will quote a few which became widely known. Dr. Charles Gibson, Chicago, reports (July 25, 1883), two hundred persons poisoned with ice-cream in Joliet, Ill., at a picnic. The report of the Brooklyn Board of Health, for 1885, records an instance of over a hundred persons poisoned by ice-cream sent out from one factory. Among the poisoning cases by ice-cream this summer, I note the one reported by the New York *Staats Zeitung* (July, 1887), concerning thirteen families, numbering seventy-nine persons. The names of the persons, their addresses, name and address of the manufacturer, are given in full. The most noteworthy instance of ice-cream poisoning presents itself in the cases of the eighteen persons in Michigan, June, 1886, all poisoned at one meal. These cases formed the basis for Dr. Vaughan's splendid researches.

There seems to be a certain correlation between the rise of the wholesale manufacture of ice-cream and the frequent appearance of wholesale poisoning by ice-cream. When cases of this kind first came under observation, various theories as to the cause thereof were advanced, and again dropped. We had sufficient reasons to suspect that bacterial work lay at the root of those disturbances, but the imperfect state of our knowledge did not admit of positive assertion.

Through the recently-acquired information concerning ptomaines, (mainly due to the labors of Brieger), new light has been shed upon the subject. We have learned that, in every nitrogenous substratum, bacterial chemical work may manifest itself by splitting up the albuminoid bodies and forming from the elements thereof a distinct class of alkaloids, to which is given the name of *ptomaines.* The physiological properties of ptomaines vary according to the species of bacteria, and to the nature and condition of the substratum. To a certain group of ptomaines, having, in common, a toxic character, Brieger has given the name of *toxines.*

Toxines form in decaying meat, fish, crabs, etc., in the white of eggs, in rotten cheese, milk, custard, and in all dishes made with eggs and milk. Only a few of them have been isolated. The existence of a poisonous ptomaine in tainted cheese had for some time been surmised ; but to Dr. Vaughan, of Michigan, belongs the merit of its discovery and isolation. It was on the occasion when three hundred persons were poisoned by cheese, mainly from one factory, that he detected it and gave it the name of *tyrotoxicon* (cheese poison). He completed his discovery by taking (June, 1886) as the object of his researches, a specimen of the ice-cream by which eighteen persons had been poisoned at one meal (the guests who had not partaken of it were not affected). He detected in this ice-cream the same poisonous alkaloid (tyrotoxicon or tyrotoxine) which he had found a year before in the cheese.

The product of bacterium lactis has no poisonous character, and tyrotoxine is not present in turned milk or milk which has undergone the lactic acid fermentation. It does not form, under ordinary circumstances, in milk which has been allowed to stand a certain time, even in the polluted atmosphere of a crowded city house. A great length of time, or particular conditions, as yet not fully known, seem requisite to its formation. Dr. Vaughan could detect it only in milk which had stood fully three months in his laboratory.

As the formation of tyrotoxine in milk is rare and slow in dairies and private houses, and frequent and rapid in the ice-cream of factories; as ice-cream is essentially milk or cream in a frozen state; as the small quantities of additional ingredients, starch, glucose, eggs, extracts, perfumes and paints, were in all cases of poisoning found to be harmless; as no metallic poison has, in such cases, ever been detected, there must be, in the conditions under which manufactured ice-cream comes into being, an agency apt to promote the rapid and redundant development of tyrotoxine. May not an infected state of the womb of which noxious ice-cream is born be that promoting factor? Does not ice-cream, in many instances, come into being in foul cellars having a free connection with sewers—cellars located in narrow alleys, in slums into which not a ray of sun, not a whiff of pure air ever penetrates? Is not the making of ice-cream and the making and baking of tarts, cakes, pastry, and all sorts of compound sweets, lollipops and fal-de-lals, often carried on in the same subterranean locality where, in consequence, fragments of fermenting dough, rotten eggs and egg shells, putrefying fruit peelings, fruit pulp and other waste organic matter are daily accumulating, clinging to the walls, permeating the floor—the removing shovel or broom only aiding in wafting and whirling the putrefactive germs in every direction? And must not milk, even after it has been sterilized by boiling—when exposed to such effluvia be converted into a hearth of contamination?

It will, however, be understood that the causal relation of these doubtless exceptional conditions to the appearance of tyrotoxin in ice-cream is only advanced as an hypothesis; before we can admit this causalty as a fact, nature must be appealed to by repeatedly placing milk in surroundings imitating, as nearly as possible, those above sketched. Should nature, thus questioned, respond with the speedy and consistent production of the poison, the hypothesis will have become an unalloyed truth. Let it once be a generally acknowledged fact that tyrotoxin cannot possibly form in ice-cream unless the scientific priniples of cleanliness are grossly disregarded, and the manufacturer will find it to his own interest to devote his mind to the study of those principles. To tell him that he will have to begin by learning what cleanliness in regard to milk means, will not jar so harshly on his feelings, if we tell him, at the same time, that it is not much more than a decennium since we doctors learned what cleanliness in the sick room, in surgery and midwifery means, and that by having learned it, and by acting upon the acquired knowledge, thousands of imperilled human lives are annually saved which otherwise would be doomed to perish.

Ice-cream is not an essential on a wholesome table, and its usefulness in the dietary of the invalid is doubtful. But it is a fashionable dainty—and fashion, moreover, rules that it shall be taken at the end of a repast. Why so? We cannot give fashion credit for reason. Nevertheless it must be admitted that the abundant secretion of hydrochloric acid which takes place after a meal in a healthy stomach is fatal to the microbes which manufactured ice-cream may contain. On the other hand a great quantity of ice-cream taken at the end of a meal is apt to substract from the stomach more or less of the heat which is an indispensable factor in the act of digestion. In the individual, however, with impaired gastric function, the microbes meet at all times, before or after meals, with a good chance of life. And if tyrotoxin be present in the ice-cream no stomach is powerful enough to resist the action of this poisonous ptomaine; it is quickly absorbed, its effects being immediate, like those of strychnine and other poisonous alkaloids.

Exquisitely clean, pleasing by the play of its soft colors, refreshing, fascinating, bewitching is the aspect of this little plate of frozen cream. Shall it be to us forever a "forbidden fruit?" Get it, my dear, frail sufferers, smarting under the sting of bacillus tuberculosis, get it and delight your eyes with it; and, if temptation be strong, sip a teaspoonful of it. Then, in order to derive some benefit instead of possible harm, take the rest and—rub your chest with it. From the foregoing it is understood that *pure* or sterilized milk or cream, in a frozen state, taken in moderate quantity, cannot be hurtful; neither can the usual ingredients and flavorings of ice-cream do harm. But danger is lurking somewhere, and will crop out, may be, only once in a thousand times. There is but one way to combine safety with the enjoyment of ice-cream. An oriental bard of yore, in order to prefigure for his people a state of perfect felicity and safety, drew the following pretty little sketch of still life: "They shall sit each man under his vine and under his fig tree—and none shall make them afraid." Transcribe this charming verse and make it read thus:

"They shall sit—each woman in her own airy yard and churn her own ice cream, and no microbe shall make them afraid."—(Micah, iv. 4.)

ARTICLE IV.

OVARIOTOMY.—Performed by DR. C. J. WALTON, Mumfordsville, Ky. Read before the Hart County Medical Association.

Mrs. H. B. L——, aged 35 years, the mother of six children, had at her second confinement twins, and a most frightful *post partum hæmorrhage* at her *third confinement*. She had not had a child for about eight years, until June, 1886. About fifteen months before this she felt an enlargement in the left illiac region; she was menstruating regularly and her health was good. Some six months after this enlargement first appeared she became pregnant, and at full term gave birth to a living boy. After an unusually tardy labor of five days, had to be delivered manually, by *version*, and *bringing down* the feet, as the head was too high up to apply the forceps. She was unusually large, in consequence of the tumor in the right side, the nature of which was not yet understood, and her labor was very exhausting; so much so that she insisted that I should let her die. She was enormously large, and presented all the appearance of being pregnant with twins, but as but one fœtal heart could be heard, the matter was in doubt. At each groin there was a deep crease, along the *linea alba*, with a large bulk on either side. After the child was born, and the afterbirth was removed, she still presented the appearance of a woman at full term with twins. The doubt as to her true condition still remained, and could not be solved without making a thorough search with the hand; so I at once anointed my hand well, and introducing it into the cavity of the uterus I found it all clear and in good condition; but there was a large, bulky mass in the left ovarian region, which I pronounced an ovarian tumor. Some weeks after this I called my friend, Dr. Jerome Smith, to see her, as he had had considerable experience in such cases, and he verified my diagnosis. Although she was exceedingly anxious, and urged on early operation, the doctor and myself thought it best to give more time after her recent confinement, and, if the growth was not too rapid, to wait until the settled weather of spring. On the 5th of March, ten days before the operation, Dr. Wm. H. Jett and myself visited her and tested her urine for albumen, and, to our disappointment, found none. She seemed to be quite well, except she was greatly burdened with the weight of the tumor. Her pulse was 100, temperature 99°. Her appetite was good, and she was cheerful and hopeful, though the tumor was growing very rapidly. The doctor said it was certainly an ovarian tumor, and agreed that an early operation should be made. About three days after this I was hurriedly summoned to see her, as it was thought she could not live long without relief. I found her suffering excruciatingly from pain in the right lumbar region, which I attributed to a purgative given the night previous, but which I now think resulted from inflammation, as we found extensive adhesions in that vicinity when the tumor was removed. A hypodermic of sulph. morphia quieted her in a few minutes, and she got along comfortably, taking no more purgative, and continuing her tonics until the day set for the operation.

March 15. The patient is in good condition, and quite courageous, and anxious for the operation. Bowels have been well cleared out with an *enema*. Room in excellent condition, having been well fumigated last evening with sulphur. Every piece of furniture, every article of clothing, and the carpet removed; the room having been well scoured and walls and ceiling whitewashed. The room was well ventilated, and the walls and floor well sprinkled with a twenty per cent. solution of carbolic acid.

The patient was neatly dressed for the occasion, and with assistance mounted the table with great firmness, at 12.30 P.M., in the presence of quite a number of my professional friends and neighboring practitioners, all of whom were required to leave their coats in an adjoining hall. In fact, we thought everything was in *apple pie order*. To Drs. R. E. Garnett and A. R. Scruggs the anæsthetic and ether was entrusted, which proved wholly ineffective; and after half-an-hour *chloric ether* was administered with good effect; and when the patient was properly anesthetized the operation was commenced. Dr. Jerome Smith had charge of the pulse. Dr. T. S. Garvin was stationed to my right, and Drs. W. W. Bowling and J. C. Beard to my left, to render any assistance that might be needed. Dr. Ed. Smith took special charge of the instruments, wiping and washing each in carbolized water, each time before using. Drs. G. G. Hubbard and C. A. Mitchel took charge of the sponges and three bowls of water, carrying each through three washings in carbolized water each time after using. We had twenty gallons of pure cistern water well *boiled* and in nice, clean, new, tin vessels at hand. Dr. James Vance kept up the water supplies.

The operation was commenced with the usual incision, of about six inches, in the *linea alba*, two inches below the umbilicus. Upon opening the abdominal cavity there was a free discharge of ascitic fluid.

The ovarian cyst was now examined for adhesions, and none found in front or laterally. In attempting to draw off the fluid, with the trochar and a tube attached, the sack was so tense that it ruptured, and the fluid gushed out in a torrent, and deluged the patient and her surroundings. The tumor being too large to bring out through the wound, it was enlarged to eight inches in length, and it was found impossible, in consequence of adhesions in its posterior aspect on the left side, extending upward from a short distance back of the pedicle, and from extensive adhesions to the omentum in its posterior aspect on the right side to bring it out at the wound. The pedicle was first tied, and then the adhesions just above it broken up, and then the adhesions on right were carefully broken up from the omentum with the fingers, the tumor being brought out, pedicle foremost. As the adhesions were detached, care was taken to secure each bleeding vessel, as the operation proceeded, with small carbolized catgut.

The tumor was enormously large, and was difficult to bring out through the wound, and with its contents and surrounding fluid, weighed about sixty-four pounds. It consisted of multilocular cysts. During the operation the fluid and blood were carefully sponged out. After the operation a portion of omentum, which was bleeding at several points, was ligatured and cut off. The bleeding now seemed completely staunched, but after waiting some time, to be sure that all bleeding had ceased before closing the wound, we discovered that there was some recurrence of hæmorrhage; Douglass's *cul-de-sac* being completely filled with blood. It was found, after considerable search, to have originated from the pedicle; not at its cut extremity, but from above the ligature, and from the point at which it was pierced with the needle. The needle was armed with a double ligature, which was passed through the pedicle and tied each way from the centre, and the blood was escaping from this central cut, although a ligature had been carried around the entire pedicle, but was not carried high enough up. A large silk ligature was carried around the pedicle, above the first ligature, and securely tied, and the pedicle cut off between them.

After waiting half an hour, to be sure that no further hæmorrhage would recur—during which time the patient was kept slightly anæsthetised and the bowels were kept constantly warm with linen towels wet with warm carbolized water, as had been done during each cessation through the entire operation—we proceeded to close the abdominal wound.

A four-folded linen, wet with the antiseptic, was applied to the intestines, carried beneath the edges of the wound. The peritoneum was carefully stitched together with a small cat-gut suture, armed with a small needle, and brought together with the "button-hole stitch," the linen being carefully drawn down as the stitching advanced. We now proceeded to close the outer wound with a strong cat-gut ligature, armed at each end with a needle, and carried from within, outward, at intervals of about nine lines, and the whole cavity closed, except at its lower angle, which was left open, large enough to admit an ordinary glass drainage-tube. The entire wound was covered with iodoform, absorbent cotton, and a flannel bandage, closely applied, which completed the dressing. Her soiled garments were removed, and she was neatly dressed and put to bed, as comfortably as is usual after such an operation. She was kept upon the table about two and a-half hours, and was kept but slightly under the influence of the anæsthetic. The whole operation was done slowly and deliberately. From the number of assistants, it would seem that they were too numerous, but I must say that each acted his part well and rendered valuable service, and that everything was done "decently and in order." 6 o'clock P. M.—Temperature 99°—pulse 119.

16th.—Is comfortable; rested well. At 2 o'clock A. M. drew off one-half pint turbid urine; temperature 99°; pulse 120; respirations 24. Vomited up the water drank during the night. At 6 A. M. temperature 98°; pulse 110. Complains of hurting in right side. Ate a crust of light bread, with one-half glass tea, and took egg nog. At 6 P. M., pulse 130; temperature 100°. Nose cold. ℞ Quinine, grs., vi. Carb. ammonia, grs., vi. Opii pulv., grs., i, every three hours. Drainage tube has filled four times, during last twenty-four hours, with fluid slightly tinged with blood. Mopped it out with a sponge, and each time dusted iodoform into tube.

It is useless to give temperature and pulse each day, as they continued about same each day, the pulse ranging from 110 to 130, and temperature from about 99° to 100°. The urine was drawn off about every six or eight hours, one-half pint at a time; looking slightly colored at first, but getting thick and turbid after getting cold. She was not very thirsty, but used crushed ice to quench thirst. She ate but little, and did not suffer much at any time; was not delirious, but perfectly conscious until the evening of the fourth day. The dressing was removed on night of third day, when union was complete by first intention. No tympanitis or undue tenderness on pressure. She grew rapidly worse, and on the fourth day died of exhaustion, at 4 P. M.

I am at a loss to know why my case did not recover, when I see such a large percentage of recoveries in the hands of experts. She seemed to be in good condition and well situated for a success—living in a healthy community, and breathing the pure country air; her house in good sanitary condition, and, so far as I could judge, her surroundings all favorable.

It may seem a little strange, that this being my first ovariotomy, and an unsuccessful one, that I should be willing to offer it for publication; but my opinion is that if physicians were as ready to publish their unsuccessful as they are their successful cases, it would enable us to arrive at a more correct basis of practice, and place us upon a surer footing than we are likely to reach soon, under the custom of publishing our successful cases. I am confident that my patient would have stood a much better chance for recovery if she could have been operated upon in the fall, instead of waiting until spring; but no *prudent* practitioner would think of operating in such a case under five or six months after confinement, and not then unless she had ceased to nurse her child. So, under the circumstances, it was impracticable to operate at an earlier day than we did. We could have given temporary relief by tapping, but as this is not free from danger, and cannot promise to do any permanent good, and may, and often does, cause adhesions that prove troublesome when we come to operate, it should be avoided, unless something very urgent should make it necessary.

Very respectfully submitted to GAILLARD'S MEDICAL JOURNAL at the request of the Hart County Medico-Chirurgical Society.

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ORIGINAL TRANSLATIONS.

DIFFERENT THERAPEUTIC APPLICATIONS OF ANTIPYRINE. COMPARISON WITH ANTIFEBRINE. By DR. GERMAIN SÉE. Translated from the *Union Médicale* by H. McS. GAMBLE, M. D., Orlando, Florida, for GAILLARD'S MEDICAL JOURNAL.

In my last communication to the Academy I discussed the use of antipyrine in the various painful affections of the head. The efficacy of this remedy, and its superiority over all other methods of treatment, have been largely confirmed by our distinguished colleague, M. Dujardin-Beaumetz, whose authority in such matters is incontestible. This point being settled, I ask the Academy to determine the other applications of antipyrine; then to establish a comparison with other remedies which I shall simply call anti-painful, and particularly with antifebrine.

I.—Acute and chronic articular rheumatism. Gout and its paroxysms.

The first painful disease that an attempt has been made to cure by antipyrine is acute articular rheumatism. As this disease is generally febrile, they started out with the idea that by reducing the fever the rheumatism would be brought to an end; and, in point of fact, the swelling and the articular pains did yield, at least as quickly and as easily as the febrile movement.

Numerous observations published in the last eighteen months, by Alexander and Lenhartz in Germany, by Bernheim and Clément in France, and by Secrétan in Switzerland, etc., testify to the curative action of this medicine, but they had forgotten to study its analytic effects. Here, as in the case of salicylate of soda, after having demonstrated the promptness and the safety of the antipyretic treatment, I have sought, by clinical analysis, to discover the morbid element amenable to the remedy.

Had we to deal with the element of pain and fluxion, or with the fever itself? The opportunity was not wanting to disassociate these two morbid acts, and, consequently, the two curative actions of antipyrine. Whilst the salicylate presented an incontestible superiority in cases of febrile articular rheumatism, the antipyrine excelled it manifestly in rheumatic affections without fever. I have now seen thirty patients who, treated at the same time by the hypodermic injection of antipyrine, repeated two or three times a day, in the dose of O. 30 Centig. (about grs. 4½), and at the same time by three or four grammes given internally, experience an almost immediate relief from the general and local pains, and recover the ability to move themselves in twenty-four hours, in consequence of the disappearance of the pain, of the articular inflammation, and often even of the synovial effusion.

In order to avoid the relapses which are so frequent, all patients ought to continue for ten or fifteen days longer the internal and daily use of three grains of antipyrine, without any kind of local treatment or external application. We may say, then, that we here possess a remedy, not simply palliative, but of a curative character in the full acceptation of the word.

I do not mean to say by this that all cases of rheumatism are amenable to antipyrine; they are no more so than they are to the salicylate. The domain of antipyrine is in articular rheumatism, acute or sub-acute, with or without hydarthrosis. There it acts with great certainty, since it melts down, so to speak, the inflammatory engorgement, and at the first blow suppresses the pain, which certainly is not foreign to the flexion.

Everything not inflammatory escapes the action of the remedy. When there existed anteriorly, in consequence of one or several previous attacks, an endocarditis or a pericarditis, with aortic or mitral valvular lesions, antipyrine in no respect modified them. But is it not at least capable of arresting the progress of the rheumatism towards the internal organs, and of preventing its transmission from the articular membranes to the membranes of the heart?

There is every probability that in arresting the exterior manifestation, we at the same time arrest the development of internal inflammations; at all events, it is useful to observe that if the cardiac affection is developed, it is generally attenuated. If the endocardium remains sound, it is particularly in the apyretic affections that I have had an opportunity of observing, and that, moreover, are naturally and infinitely less complicated with internal manifestations than are cases of general acute rheumatism.

If now we compare the results obtained with other anti-rheumatic remedies (the salicylate, antifebrine, salol), it seems to me that I can, after my former and recent experience, resolve the problem of their several indications in the following manner:

1st. The salicylate seems to present a certain superiority in cases of grave, articular, general, febrile rheumatism; but if the heart has fallen into a state of asthenia, or if it presented a former condition of debility, a trouble of compensation, in consequence of old valvular lesions, there can be no hesitation. The salicylate, as I showed nine years ago, is no friend of the heart; it is a depressor of its motor force. In these cases antipyrine, which never produces the least disturbance of the contractile action of the myocardium, offers incontestable advantages over the salicylate.

2d. Antipyrine, by the benignity, by the harmlessness of its effects, by the certainty of its action, compared to the salicylate, excels it manifestly in apyretic rheumatic affections; the use of it may be continued with impunity. It may be employed in subcutaneous injections, provided they are made slowly in the proportions indicated, and this very useful method is entirely appropriate to antipyrine.

3d. Antifebrine, which has recently been brought into use in all kinds of rheumatism, offers no real advantage over antipyrine, and does not constitute an advance.

4th. Salol, the latest comer in the series, presents a veritable inferiority to all other anti-rheumatic measures. Its failures can no longer be counted, and recently it has descended to the rôle of an ingredient in an antiseptic pomade for diseases of the nose and mouth.

All these medicinal substances possess, then, in different degrees, a real anti-rheumatic action; but the word must not be abused; this action does not apply to the internal lesions that recognize an evident rheumatic origin.

Among the internal localizations there is one which especially concerns the nervous system, and the evidence of which is no longer doubted since my memoir crowned by the Academy in 1851, and largely confirmed, and above all completed fifteen years later by my friend Roger—I mean rheumatic chorea; its nervous nature seemed to indicate antipyrine which is a depressor of the reflex excitability of the spinal cord; its rheumatic nature seemed a decisive indication; finally, quite recently a clinical assistant at Koenigsberg, M. Koch, has just proclaimed chorea, as well as rheumatism itself, to be a microbic affection; this should be another reason for prescribing antipyrine, which is a little antiseptic.

But all these provisions are found to be disappointing in practice; antipyrine, like the salicylate, is powerless to cure chorea, to disturb its evolution, and even to abridge its duration; it is good to moderate the irregular movements, and that quite as much in hysterical as in rheumatic chorea. There is at present in our wards a very grave type of hysterical chorea, which has been for some days relieved of the muscular disorder, but which has not been cured, in reality, by antipyrine administered internally and by subcutaneous injections.

Thus, complete failure in the whole series of internal rheumatisms; incontestible efficiency in the entire series of articular rheumatisms.

Among the latter it remains, nevertheless, to mention a grave form which is the despair of active medication, aided by the most renowned thermal waters, and the most judicious hydrotherapy; it is chronic rheumatism, which probably has nothing of rheumatism about it except the name; it is chronic arthritis either dry or with synovial effusion; it is susceptible of cure by antipyrine; there is also podose arthritis, which resists, so to speak, all kinds of treatment. I have observed within the last two or three months six women, aged from thirty to fifty years, and two men, attacked with these chronic arthrites, two cases of which were podose rheumatism.

In all these patients the disease had developed itself, without previous rheumatism, slowly, with a fatally increasing progression, in such a manner as to successively invade the knees, the ankles, and in the greater part of the patients the shoulders, the wrists, and the fingers; these articulations were rendered immobile, painful upon the least movement, and the almost anchylosed subjects doomed to a most painful existence. I have seen a piano teacher, aged fifty years, who three years ago still in a great measure made her living; since that time all kinds of treatment (salicylate, morphine, thermal waters) had remained powerless, until about three months ago, when she commenced the antipyrine treatment, in the quantity of four grammes a day; at the end of fifteen days the pains had completely yielded; then the articulations of the feet commenced to recover their motion; then those of the fingers, which were swollen to a notable degree; to-day the patient is able to resume the teaching of music. By the side of these cures obtained under such unfavorable conditions, I have to record some failures to the number of four, which presented this singularity that all these cases related to chronic arthritis of the cervical vertebræ.

Gout.—Chronic gout may be modified as well as rheumatism, and I have also effected the cure of two cases of gout in persons aged thirty and forty-two years. They had been condemned for a long time to rest, suffering constantly, and experiencing no relief from the usual remedies. The cure was obtained in three months. I do not speak of the paroxysms of gout that yield rapidly under the influence of injections of antipyrine associated with the internal use of the medicine. Whether the disease manifests itself simply under the form of paroxysms with complete intermissions, or of paroxysms engrafted upon tophous gout, the result is the same; it is to be well understood that the concretions are in no manner modified.

II.—Lombar, Dorso-Intercostal, Sciatic Pains.

In another series of painful diseases, of which some are neuromuscular, others neuralgic, the effects of antipyrine are often instantaneous; thus lumbagos, whatever may be their origin and date, are immediately cured after two injections of O. 30 centig. of antipyrine, aided by 3 grammes taken internally.

I will say as much of the dorsal and intercostal pains which are observed in persons suffering from fatigue, or in hysterical subjects, and which do not always even require the employment of hypodermic injections.

The most inveterate cases of sciatica (as I have witnessed in two instances) may yield to the complete antipyrine treatment (injections and internal use of antipyrine), which is moreover indispensable, even in recent attacks of sciatica. By aid of this procedure, continued for two or three weeks, we obtain the most favorable and the most decisive results. I have seen in twenty-three cases but two rebellious ones, which yielded neither to morphine nor to the salicylate, nor to antifebrine.

III.—The Neurites of Ataxic Subjects.

I come now to the most delicate and the most important problem; I mean the ataxic or pre-ataxic pains, which are considered to-day as peripheric neuritis.

Dujardin-Beaumetz, as well as Léssine, claims that they are amenable to antifebrine; I claim that they are amenable to antipyrine; I have, for admitting this preference, a reason of a physiological or toxic order, without which the parallel could be perfectly sustained between the two remedies. I allow Léssine to speak: "Almost constantly," he says, "one sees the blood, after the lapse of an hour, undergo grave alterations; it becomes of a chocolate-brown color, and is changed by the production of metahæmoglobine in the blood globules; so that, as Hénocque has recently proved, the deficiency of oxyhæmoglobine singularly diminishes the respiratory power of the blood, which it even despoils of a portion of its oxygen, and which is found incapable of absorbing it anew for a certain length of time."

This consideration is not to be despised. Moreover, in consequence doubtless of this venous condition of the blood, the skin, the vessels of which are also dilated, assumes a general livid coloration; this cyanosis does not fail to inspire some fear; it has happened to me three times to see a general cyanosis, a lividity of the skin and the mucous membranes, in the case of ataxic subjects who had not exceeded the dose of a gramme and a half a day. I know very well that this cyanosis is now considered with great complacency; but as it results from a veritable decomposition of the globules, I do not regard this phenomenon with the same sang-froid as Dujardin-Beaumetz, who does not fear to see his patients change to a blue color, and consoles himself by saying that those under the influence of antipyrine become red. In fact, once in twelve or fifteen cases antipyrine produces, but only when continued beyond ten to fifteen days, and in large doses, and especially in women, an eruption in the form of urticaria or of a rash upon the hands and feet, which lasts two or three days, and disappears without leaving any traces; it is a medicinal exanthem like that of quinine.

Antifebrine produces nothing similar, it is true, but it determines a veritable poisoning of the blood, and that in an almost constant manner; Doctor Mabille, who has treated twenty-two epileptics, though unsuccessfully, by antifebrine, has noted the cyanosis in all the cases; this is not, therefore, a coincidence, it is a poisoning, inevitable whenever we exceed the quantity of one gramme and a half, which is generally necessary in order to soothe the ataxic pains.

It has often happened to me to make a comparison between the two methods in alternating the use of them, which is necessary when one of the two medicaments loses its efficacy. But, save in two cases in which the antipyrine had refused its service to give the precedence to antifebrine, in all the other cases without distinction I succeeded in relieving my patients of the fulgurating pains after a variable length of time, and in comforting them immediately, especially by combining the internal use of antipyrine with injections of the same. I call attention to this latter point; the subcutaneous method, which would not be applicable with antifebrine, entirely insoluble as it is in water,* constitutes an advantage so much the more marked as the greater number of the patients were accustomed to the use of morphine, which we succeeded gradually in replacing by the injections of antipyrine.

This treatment, thus combined, may, without disturbing the health of the patient, be employed for entire weeks. Of a perfect innocuousness which constitutes its incontestable superiority, it has not even produced in ataxic men, whom we have treated, the medicinal eruptions which are observed only after a long use of the remedy in women.

To complete the history of the grave forms of neuritis, we have only to mention the neuritis of zona, so painful and so persistent, which we have always seen cured after a variable length of time; finally the diabetic neurites, which are modified very rapidly under the influence of the antipyretic treatment.

Thus we have here anatomical alterations of the nerves, well-defined lesions, the painful manifestations of which yield as readily as a simple neuralgia, a simple functional disorder; the intervention of antipyrine has brought back the disease of the peripheral nervous system to its more simple expression; if the disintegration of the nerve continues its work, it accomplishes it in silence and the cry of nature is suppressed.

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*Antifebrine is soluble in 1 part to 160 of cold water, and in warm water 1 part to 50 of water at 105° Fahr. Bartholow's Mat. Med., last edition, p. 392.—Ed.

In this line of thought one may go still further and prove that the central lesions themselves may be developed without inflicting injury upon the general health by the continuance or the intensity of the suffering. I have seen headaches of specific origin, and consequently of an organic nature, headaches due to cerebral tumors, yield rapidly to the influence of antipyrine, as if it had been merely a headache of the growing age, or a migraine.

We may say, then, that in the presence of this medication all the phenomena of excitation are equal, whatever may be their origin. Is it not a consolation to science, which stands disarmed in regard to the profound alteration of organs, but which recovers its power in bearing tribute to the restoration of the attacked histological elements, and above all in impressing upon a complicated and compromising phénoménalité a more regular march, more simple features?

The therapeutics that control the phenomena of organic origin are applicable to the symptoms of mechanical origin; this will appear clearly from the study of the visceralgias.

IV.—Visceral pains. Hepatic, nephritic, gastro-intestinal, uterine, and visceral colics.

We find, in point of fact, in the history of biliary concretions, and of renal calculi, when they tend to escape from the excretory conduits, a symptom so violent that under the name of *hepatic colic, nephritic colic*, it dominates the whole pathological scene, it alone preoccupies the patient, so that during the interval of the painful paroxysms he often makes no complaint; but as soon as the attack manifests itself he refuses to suffer; he injects himself with morphine; but morphine has the serious inconvenience, for those suffering with hepatic calculi, of diminishing the secretion of the bile, of thus hindering the expulsion of the stone, of arresting completely the formation of the intestinal mucus, of thus producing an arrest of fecal matter, and of causing intestinal pains which replace or complicate the nephritic colic.

Since my clinical chief, M. Capitan, and my interne, M. Baudoin, have conceived the idea and applied injections of antipyrine in place of those of morphine, we have succeeded, after a few minutes, in attaining the suppression of the pain—that is to say, of that terrible syndrome—in hepatic colic, of that grave phenomenon, complicated with painful irradiation, vomiting, disturbance of the circulation, arrest and resorption of the bile; the scene changes in the twinkling of an eye, so to speak, which causes the belief that the spasm of the tracts, irritated by the stone contracted upon it, has just ceased, that the calculus has passed the obstacle and entered the intestine; from this time there is no more pain. Thus we see a pain, essentially of mechanical origin, which has no more resisted the action of antipyrine than if it had been essentially nervous. The injections being given, it only remains to complete the cure, or rather to prevent other calculi from becoming painfully engaged in the cystic, biliary, or choledoc canals; for this purpose it is important to administer antipyrine internally as soon as the stomach will tolerate a medicine or a liquid; we prescribe therefore one gramme of antipyrine four times a day in ice-water; the next day three grammes, and we thus continue for eight to ten days; the frequently consecutive, but bearable, pains yield in their turn, and the patient is cured until a new paroxysm, that is to say, until a new engorgement or obstruction. What is true of biliary calculi is equally so of *nephritic calculi.*

As soon as the gravel commences to pass along the ureters it determines slight pains of the kidneys at the first, or more intense pains along the ureter, or an intolerable vesical tenesmus; when one or the other of the phenomena is manifested I administer from one to three injections of antipyrine, and give internally, as soon as the nausea has diminished and allows it, two to three grammes of the medicine; the paroxysm is found to be under control at the end of ten or twenty minutes, and the pain ceases with the whole cortège of the phenomena of nephritic colic. Up to the present time I have not seen a single attack resist this treatment, which is always followed in twenty-four hours by the expulsion of the calculus.

The benefits of antipyrine, even when it is continued in small doses, that is to say, two grammes a day, persist for a greater or less length of time, and often the calculi end by escaping without provoking the least suffering; they are cognizant of the fact only at the moment of the passage through the canal of the urethra, and especially its terminal portion. Here, again, is a new proof of the action of antipyrine in affections that might be called mechanical, an action that is durable and perfectly harmless, especially if we compare it to that of morphine, which has the baleful effect of arresting the urinary secretion, which constitutes one of the gravest complications of renal lithiasis.

In addition to these physical states of the urinary and biliary canals, I must call attention to a few observations relative to *acute metritis*, and above all to *membranous dysmenorrhœa.*

From this latter point of view, the facts of which the greater part have been communicated to me by practitioners of the city (see two cases published by Chouppe) present a perfect agreement; when for a woman who suffers with painful menstruation—followed or not by considerable wasting, and the products of membranous exfoliation—we order antipyrine to be taken internally at the time of the appearance of the menses, or still better, when we prescribe a gramme-and-a-half of antipyrine by injection into the bowel, the pain which often lasted for hours, and was repeated every month for long years, ceases, so to speak, suddenly, and the catamenial flow is established from that moment without any difficulty; it is understood that it is necessary to renew this facile procedure at each new period.

It remains still to mention and to study the painful manifestations that accompany the various morbid states of the stomach and of the intestine.

When a *chemical dyspepsia*, or an *atony of the stomach* becomes painful, we ought to try the combination of antipyrine with carbonate of soda in equal parts, half a gramme three times a day. With these moderate and divided doses distributed equally, and administered in half a glass of iced water at the commencement of the meals, we obtain very favorable results. The same is true of *painful intestinal affections*, especially in gaseous colics, or those arising from constipation. But here large doses are necessary, and I ordinarily prescribe every three hours one gramme of antipyrine associated or not with an equal quantity of prepared chalk. If the medication does not succeed under this form, I administer injections of antipyrine, which never fail to produce an immediate relief.

Here ends the history of the painful affections of the abdomen.

V.—Cardiac pains and stitch in the side. Painful anæmia of the heart. Angina pectoris.

Our last study is reserved for the painful pathology of the heart. This is a forgotten chapter of medicine.

Cardiac stitch in the side.—The pains called cardiac are not in the heart; that is to say, in the cardiac muscle; in the nerves that supply it; in the endocardium, or the pericardium that cover its surface. They are in the neighboring parts. The heart in itself is insensible. The operations of sounding through the venæ cavæ do not extort a cry from the animal experimented upon.

It has been said that there is a morbid sensibility resulting from lesions of the heart, and revealing themselves, according to Peter, especially by pressure made in the first or second intercostal space on the left side. But upon what? Upon the plexuses, the ganglions, the vagi, or the phrenic nerves? But the plexus contains sympathetic nerves which are vaso-motor. The intra-cardiac ganglions are imperceptible, intangible. The phrenics do not belong to the heart, nor do the nerves of Cyon, which are nerves of arrest for the vaso-motor center. The vagi nerves would alone be acceptable—the only nerves capable of impression. But after the beautiful experiments of F. Frank, excitation of the endocardium, which is perfectly insensible in itself, as well as the internal surface of the large vessels, produces nothing but vaso-motor reflexes that are absolutely unnoticeable to the subject, and these reflexes take place in the peripheral vessels. To these curious researches I will add a clinical observation; it is, that the heart, particularly the muscle and the endocardium, seem, in certain morbid states which are not inflammatory, and falsely bear the name of myocarditis of chronic aortitis, seem, I say, to produce an unconscious, latent impression, which reaches the spinal cord, is there reflected, and manifests itself either by centrifugal sensations, or by muscular actions ordinarily limited to the region in the neighborhood of the heart, as takes place in all reflex acts; after Pflüger, I call them *cardiac stitches in the side* (points de côté cardiaques). These stitches in the side are located in the nerves or the intercostal muscles; they are neuralgias of irradiation or reflex neuralgias. I find no other explanation of these pains, of which those suffering with cardiac troubles, whatever they may be, so often complain, and in a manner all the more persistent, from the fact that they are uneasy about everything that occurs in this left region.

This subject, however, requires a precautionary warning. It often happens that in this very region, at the apex of the heart, or below it, there exists a pain perfectly independent of the heart, and that is due to the accumulation of gas in the stomachal tuberosity, or even in the angle formed by the transverse and the descending colon. Percussion readily reveals these gastric or colicky tympanites, and a purgative suffices, ordinarily, to dissipate all those sensations that might be called false cardiac stitches in the side.

The painful sensations are not always located at the apex of the heart. They are often felt at the centre of the precordial region, and, more frequently still, at the base, where they produce a feeling of constriction of the most painful character, and radiate the more often under the form of a twinge below the clavicle towards the left shoulder and arm.

Causation of these pains.— Those centralized or radiate cardiac pains, as well as those stitches in the side, recognize three kinds of causes:

Sometimes they have an extra cardiac origin, and constitute a fragment of general neurosis, or of hysteria, or a cardiac chlorosis, a hemorrhoidal or a menstrual anæmia.

Sometimes it is a question of a lesion of the heart, and in order of frequency one may incriminate the fibrous or fibro-fatty degenerations of the heart, the sclerous or atheromatous lesions of the aorta, aneurism itself of the aorta, insufficiency of the aortic valves, and sometimes strictures of the orifice of this vessel. Among the rarest causes are found mitral insufficiency and contraction, for the very simple reason that they exercise upon the irrigation of the heart, that is to say, upon coronary arteries, a very much slighter influence than the lesions of the aorta and of its valves.

The third order of causes, which comprises the gravest series of cardiac pains—that which we call angina pectoris—is constituted by sclerosis of the coronary arteries. Thus we have the category of benign pains, which is the first. The second class, which is only grave by the persistence of its cause. The third, which entails a double danger, one intermitral manifesting itself at each paroxysm, and often at the first; the other permanent, resulting from the fact that the circulation and the nutrition of the heart are incessantly compromised by the obliteration of its nutritive vessels. This is the true, the only angina pectoris, as I first demonstrated about the year 1875, by my cases published at that time in the medical journals, and by my lectures upon diseases of the heart, reported and published by Labadie-Lagrave in 1880 (2d edition). I am particular as to these dates, because some half-way savants have divided my booty among themselves too soon, by making a great noise over my discovery to their own profit.

From a practical point of view this distinction that I established between the groups of pains appears to me of prime necessity, in the midst of the confusion that reigns upon this subject in the minds of different persons, and that it is often favored voluntarily or otherwise by physicians. It is such a fine thing to cure an angina pectoris; by neglecting the considerations of origin one succeeds in making up cases of *angina pectoris* at will; one finds fifty, a hundred of them a year, whilst fortunately true angina is very rare; that is to say, that which arises from the obliteration of a coronary artery either because the vessel is sclerosed primarily, or because the sclerosis, the atheromatous incrustations of the aorta are easily propagated to the entrance of the cardiac artery.

Different degrees of Angina.—After having pronounced this frightful word, it is my duty to recognize the fact that angina pectoris, which in reality constitutes an ischæmia of the heart, a *painful anæmia* of the heart, does not always present itself under the seal of fatality; it has its degrees. At the commencement the patients complain only of a feeling of oppression at the top of the sternum, and of a sharp pain in the left arm, which forces him to stop all at once in walking even upon a horizontal plane, and still more in making an ascent, although he does not suffer from the slightest dyspnœa; after a few moments he feels himself free; then the night is calm, and the paroxysm reappears only upon some muscular effort. These paroxysms are remarkable for their short duration; they disappear upon repose, and are distinguished from the grave paroxysms because the patient has no well marked anxiety, or contraction of the vaso-motors of the left hand, or coloration of the face, pallor or cyanosis, as in true *angina pectoris.* Later, the paroxysm betrays itself by pulsations in the second or third intercostal space, by a very great difficulty in moving the arm, which becomes swollen, by a very marked flatulence, by asthenia of the heart, and, according to Rosembach, by an inclination to defecation. I do not insist upon the more advanced form of the paroxysms; they do not ordinarily come within the domain of therapeutics.

Antipyretic treatment.—The first degrees of angina, and still more the cardiac pains in the side, are amenable to our means of treatment.

Antipyrine is able to triumph over them. No one could arrest the progress of aortic or coronary sclerosis; all the iodides of various forms fail entirely; they have some influence upon the anæmia, and the exsanguine state of the heart that results from these lesions, for these are remedies that promote the nutrition and the circulation of the heart, as I demonstrated in 1880. They have no arterial effect; they act, morever, only when sustained by the use of sparteine and of convallamarine. But, even with this association, one does not cure the coronary arteries. In the present state of therapeutics the question ought to be stated differently. Since curative treatment is impossible, it is necessary to seek for the cure of the paroxysms, and the prophylaxis against the subsequent paroxysms.

But, for the purpose of arresting the paroxysm, there is no means, not even the injection of morphine, nor the respiration of nitrite of amyl, that has appeared to me comparable to the injection of antipyrine in the dose of O grammes, 50 centigrammes dissolved in as much water; at the same time the patient ought immediately to inhale pyridine, which he should carry about him in a hermetically sealed flagon; so much to elude the first danger. Then, in order to avoid the consecutive attacks, the patient takes, in a regular manner, three or four grammes of antipyrine by the mouth without any other adjuvant; he ought to avoid digitalis, which does not address itself to the pain; bromide, which depresses the strength; chloral, which lowers the vascular tension; hydrotherapy, which may compromise his life; electricity, which may end it.

By aid of this medication I have succeeded: first, in surely curing all the cases of stitch in the side, and all the pains that belong to extra-cardiac causes, as hysteria, chlorosis; second, the violent pains experienced by aneurysmic patients at the heart, at the sternum, in the left arm; the pains of radiation felt by the subjects of aortic disease; the painful sensations resulting from valvular insufficiency of the aorta. As to the pains of those suffering with myocarditis and cardiac degeneration, they yield none the less readily, and this disease is found disengaged from all complication. Third, I come to the cases of angina pectoris—this is the delicate point of the question. Now I have at the present time the histories of four cases collected in the city, and three at the hospital, the diagnosis of which did not admit of the least doubt; all these patients were in the first degree of angina, and presented nolesion of the heart appreciable by auscultation or percussion; we know that this is the characteristic of the true paroxysms of angina. These paroxysms have been, so to speak, cut off by injections of antipyrine, and the respiration of pyridine, and those that might have followed have been completely avoided for two months by the daily use of antipyrine.

I submit this treatment to the consideration of the Academy; I believe it true and useful; it constitutes, in effect, for all the organs of the body the true means of calming their exalted sensibility; it is the remedy for pains and for pain.

CLINICAL RECORDS.

Lupus Vulgaris.—A clinical lecture delivered at the College of Physicians and Surgeons, by Henry J. Reynolds, M.D., Professor of Dermatology in the College, Professor of Skin and Genito-Urinary Diseases in the Chicago Polyclinic, New Orleans, Louisiana.

Gentlemen:—I desire to direct your attention this morning to a consideration of the disease known as lupus vulgaris. The lady I present to you illustrates the affection in a well-marked, typical manner, and I prefer, before making reference to this particular case, that you have some idea as to the general manifestations and leading features of the disease.

Lupus vulgaris comes under the head of a class of skin diseases designated as "new growths," and on account of the varied appearance of which, in different cases and at different times, several terms have been applied to it, such as lupus exedens, lupus verrucosus, lupus discretus, lupus vegetans, etc., all of which come under the head of lupus vulgaris, and are simply different characteristics of the disease.

You must bear in mind the fact that the name does not include the affection known as lupus erythematosus, which is somewhat similar in behavior, but is regarded as an entirely separate and distinct disease. Lupus vulgaris is generally first seen in childhood. Even if the disease is not observed by the physician at adult life or old age, the early history, such as old scars, etc., will, as a rule, disclose the previous existence of the affection. There is a possibility of its continuing all through life. It is not a contagious disease. It may crop out upon any portion of the integument of the body or of the contiguous mucous membrane, but it is most commonly found upon the face, with a preference for the nose. The skin, mucous membrane, and cartilages may be implicated in the destructive process, but, unlike syphilis, it spares bones.

The affection manifests itself primarily in the form of soft pin-head to small-sized brownish-red or yellowish papules, which, from being deeply seated in the skin, are at first scarcely perceptible to the touch. By enlargement and aggregation of these small growths, which progress very slowly, larger nodular or tubercular masses are formed, and by the subsequent breaking down of the same we have the typical ulceration, cicatrization, etc. The small growths may, on the contrary, undergo atrophic changes, and become absorbed without disintegration or breaking down. The affection, though chronic and very slow in its progress, is a very destructive one, particularly in the region of the face. Sometimes it destroys almost the entire nose, eyelids, etc.

Lack of symmetry is observed in a lupous nodule; the patches are irregular and uneven here and there. To illustrate: It may implicate only one side of the face, and at the same time a portion of an extremity. The disease is considered quite rare in this country. The ulcer of the disease has a reddish, indolent, granulating base, which bleeds easily, and is surrounded by a soft, flat, neither elevated nor undermined margin. Crusting is not a marked feature, and there is little or no pain connected with the disease.

Diagnosis.—In the differential diagnosis we are to bear in mind syphilis, superficial epithelioma and lupus erythematosus, and by adhering to the following diagnostic points a diagnosis can be made with almost unerring certainty:

LUPUS VULGARIS.	SYPHILIS.
Almost invariably first manifests itself in childhood.	Usually in adult life.
Is not hereditary.	May be.
Never occurs in infancy.	It may.
Rare in this country.	More common.
Papules small, soft, deep, not elevated, and may reappear in the scar.	Larger, harder, elevated, and never reappears in the scar.
If female, not necessarily any previous history of abortions.	If female, may have previous history of abortion.
Generally local.	Tendency to general distribution.
Progresses very slowly.	More rapidly.
Margin ill-defined and uneven.	Well defined.
Never affects the bone.	It may.
No syphilitic history.	Almost invariably a history of primary and secondary syphilis in adults.

THE ULCER.

Generally begins from an aggregation of points or papules.	Generally from single point.
Is shallow, with red granulating base.	Deep.
Margin not abrupt, elevated, nor undermined.	Margin abrupt, elevated, and undermined.
Secretions scanty.	More profuse.
Odorless.	Fetid.
Little crusting.	More crusting.
Resulting scar always white.	Often pigmented.

LUPUS VULGARIS.	SUPERFICIAL EPITHELIOMA.
Generally begins in childhood.	Usually found in old age.
Starts as multiple discrete papules, which may each form an ulcer.	Starts from one or an aggregation of papules, which ultimately form only one ulcer.
Not painful.	More or less painful.
Progresses very slowly.	Progresses more rapidly.
Becomes irregularly nodular.	Does not become nodular.
Becomes diffuse and ill-defined.	Does not become diffuse and is well defined.

THE ULCER.

Generally multiple.	Usually single.
Shallow, with red granulating base, which bleeds easily.	Deep, with hard, indurated, uneven base.
Edges ill-defined and neither elevated, everted, nor undermined.	Edges clean cut, abrupt, indurated, and everted.
Ill-defined, red, unhealthy skin outside the margin of the ulcer, due to the more diffuse nature of the disease.	Surrounded by healthy skin.
Moderate amount of secretion.	Secretions more scanty and liable to be tinged with blood.
Secretions inodorous.	Secretion fetid.
Presence of the characteristic non-ulcerative papules found in the scar and healthy skin.	No elementary papules found at same time as ulcer.

You may differentiate lupus erythematosus from lupus vulgaris by the absence of deep-seated papules, ulceration and discharge in the former, and by its appearance first in adult life, by its symmetrical distribution on each side of the face, its firmly adherent yellow scales, and by the absence of the nodular condition characteristic of lupus vulgaris.

History.—This woman comes before us with the following history:

She is forty years of age, German, and has been in this country about twenty years. She tells us she has always enjoyed good health until about two or three years ago, when her present disease began to manifest itself, making its appearance first on the right leg, a little below the knee. This was followed by an outbreak, similar in character, in several portions of the face. The disease has been gradually growing worse ever since, some of the patches becoming atrophied and absorbed, while others have undergone ulceration, followed by cicatrization. We find in this case a distorted, ulcerated condition of the face. Those of you who are near enough can see that the lower eyelid is all gone, and both alæ of the nose. You will observe also that the upper lip is slightly implicated. There is an ulcer about the size of a dollar on the centre of the forehead.

Treatment.—With regard to the treatment of the affection, I may say various methods and remedies are adopted, the simplest being the local application of such remedies as green soap, stimulating lotions, caustics, etc. If the disease assumes a benign character, and there is a tendency to atrophy and absorption, such treatment may be all that is necessary. The more effectual treatment is that of multiple linear scarification of the parts. By this I mean a number of parallel incisions being made just deep enough to go down to the healthy tissue, the same then being crossed by similar incisions. Another, which is very effectual in advanced cases, which we will adopt in this case, is that of erasion or scraping of the part with the dermal curette. The spoon-shaped instrument which you see I hold in my hand is a dermal curette, and with it I shall endeavor to scrape away as much of the diseased tissue as possible, which you notice is easily done, as these lupus growths, whether they be papular, tubercular, or advanced to ulceration, give away very freely in front of the curette, and scrape out almost like cheese or rotten wood, leaving at the margins the normal tissue, which is much more resisting, and cannot be very easily taken away. I have scraped away much more of the diseased tissue than I had expected, but I will go beyond until I encounter the resisting healthy tissue. I have been compelled also to remove completely the alæ of the nose. Having scraped away as much as possible of the diseased tissue, I will now apply the nitrate of silver to the surface which has been curetted, also to the eyelid and inside of the nose. I do this in order to destroy any remnants of diseased tissue that may be there. As an after treatment I will order an ointment of iodoform, ʒi ; pyrogallic acid, ʒi ; ung. aq. rosæ, ℥i.

A Case of Cephalic Version Three Hours After Membranes Had Ruptured.—By J. J. Wray, R. S., Charity Hospital, New Orleans, La.

On October 3, 1886, I was called to see Mrs. F., who had been in labor for six hours. She was thirty years of age; had enjoyed good health all her life with the exception of a pelvic abscess after her previous confinement, from which, after free evacuation through the vagina, she had completely recovered. There was great pain in the back; the labor pains were strong, coming on at regular intervals. The vulva was very much swollen, and projecting between the œdematous labia could be seen the left hand and forearm of the child, also swollen. The child was in the dorso-anterior position. The head was easily found in the right iliac region. No fœtal heart sound could be heard on auscultation. On vaginal examination the shoulder was found impacted in the superior strait. The history given by the midwife was, that the patient had been in labor for six hours, with strong, regular pains; that three hours before the membranes had ruptured, and that one hour later the hand and arm had projected from the vulva. After some ineffectual attempts at replacement, with the assistance of Dr. B. D. Watkins, the patient was anæsthetized. With difficulty the projecting arm was reintroduced, flexed, and swept backward over the chest of the child, and the shoulder shoved upwards and to the left, while externally the head was pressed downwards towards the median line and engaged in the superior strait. The patient was then allowed to come from under the anæsthetic. Her pains began again, and at the end of an hour there being no progress, and being in an exhausted condition, the forceps were applied and she was quickly delivered of a stillborn child. The recovery was rapid, without any bad symptoms intervening.—*N. O. Med. Journal.*

ANTIPYRINE IN ACUTE CONJUNCTIVITIS AND KERATITIS, ETC.—For GAILLARD'S MEDICAL JOURNAL. By Q. C. SMITH, M.D., Austin, Texas.

In addition to whatever constitutional treatment that may be deemed necessary, in any given case of uncomplicated acute idiopathic conjunctivitis or keratitis, if the patient be not greatly debilitated, we would suggest that a solution of antipyrine, one grain to one ounce, water, half to one teaspoonful—the larger dose for adults, the smaller for children—every two to four hours when awake, will produce a very pleasant and beneficial effect, tending to cool the general and local febrile irritability, pain, and photophobia; and greatly add to the general comfort of the patient.

As a collyrium, in these cases, we have found something like the following solution very useful, made thus:

℞. Acetate morphia, gr. 1-4.
Sulph. atropia.
Sulph. Hydrastia, āā gr. 1-8.
Hydrate chloral, gr. 1-16.
M. Ft. sol.

S. Place three or four drops between the lids with a pipette, near outer corner of each sore eye, every one or two hours.

If there is much sticky discharge, remove it by bathing the eyes with very warm solution of chloride of sodium—half-teaspoonful to the quart of water—every two to four hours.

We would further note, just here, that these small doses, and often still smaller doses, of antipyrine will often serve an admirable purpose in relieving the acute nervous ephemeral fevers of infancy and childhood; in many such cases it is preferable to the bromides or chloral, or both, as an anodyne sedative. If the fever be very high, we usually add a drop or two of the green tincture of gelsemium to each dose.

SELECTIONS.

THE MORTON LECTURE ON CANCER AND CANCEROUS DISEASES.

Delivered at the Royal College of Surgeons of England on Friday, November 11, 1887, by Sir James Paget, Bart, F.R.C.S.

Mr. President and Gentlemen :—We may safely believe that Mr. Morton, in generously founding this lectureship, entertained the hope that it might lead to some distinct practical utility, perhaps even to the finding of a method for either the prevention or the cure of cancer and cancerous diseases. I hardly need say that we have none yet. Where or how may we hope to find one? We are bound to search everywhere and in all ways; but in one lecture I can speak of only one way, and it shall be that which seems to me the most hopeful. I think that we may justly hope to find a remedy in the constant careful study of the likeness of these diseases to others of which we already have means of useful treatment. We may be the more hopeful because the nearest likenesses of cancer and cancerous diseases are to two other groups of diseases concerning which there have been, in recent times, very useful additions to our knowledge. In one direction we have their likeness to the simple or innocent tumors, in the surgical removal of which the risk of life has been diminished, even while the range of operating has been increased; and in the other direction we have their likeness, which I believe to be much more intimate, to some of the specific and micro-parasitic diseases, a group in which there has been progress toward both preventive and remedial treatment. It is of this last relation that I propose especially to speak; and I shall try to show that it indicates the method in which cancer and cancerous diseases should be studied more thoroughly then they usually are.

Let me say that I purposely speak of "groups" of diseases. I would not attempt to define what shall be called tumors, whether innocent or cancerous, or what diseases shall be called specific. I would rather undertake, if it were necessary, to show the inaccuracy or insufficiency of any definition yet given. Definitions, if they are to be more than convenient helps to arrangements, belong only to sciences more exact than pathology can yet be. It is better, at present, to think of diseases as in groups with borders that are not clearly marked: or as of nations with ill-defined frontiers, and with inhabitants intermingling and even intermarrying. We may find typical examples of diseases as of peoples; it will be from such examples that I shall take my illustrations; and these typical examples we may describe and may call them by distinct names; and these names are convenient for nomenclatures and for registration, for indexes and catalogues; but we must use them very cautiously in the real study of pathology.

Cancer and cancerous diseases agree with the simple or innocent tumors, such as the fatty tumors and overgrowths, the fibrous and fibroid, the simply cartilaginous, and the like, in that they are all growths, structures growing with some degree of likeness to the natural structures of the body, especially of the part in which they are placed, but growing as if with a self-possessed power of maintaining and increasing themselves. With all tumors alike, this growing is so far dependent on external conditions as is that of the natural structures; but it is not, as theirs is, in evident adjustment to the plan of other parts, and is not subject to the general control which in health keeps each part in useful association and concurrence with every other.

This peculiar method of growing, purposeless, and, as one may say, selfish, is characteristic of both innocent and cancerous tumors, and it seems to indicate a very close affinity between them. It is rarely seen in any other disease than these, and some specific diseases to which I shall again refer. It is in some measure imitated in the cheloid growths of scars, and in the excessive callus sometimes formed in the repair of fractures; but these usually after some time cease to grow, even though they may show no sign of dying or degeneracy.

Another indication of the relation between the innocent tumors and the cancerous appears in that it is impossible to mark any fair boundary line between them. Between such as may be deemed typical examples of each—say a common fatty tumor and a cancer of the rectum or of the tongue—there seems no likeness, except that they all grow after the manner I have spoken of. In all the rest of their life-histories it would be hard to find two diseases more unlike, and yet the space between them and betwen all the innocent tumors and the cancers is filled with examples of intermediate forms; with sarcomata in all degrees of structural likeness to the one or the other, and with less or more of the characters of malignancy, the degree of malignancy usually corresponding with the degree of unlikeness to the natural structures. But this gradation is, as I have said, only what we find in all groups of diseases; and if, on the one side, we cannot exactly define innocent tumors from cancerous, so, on the other, we cannot define them from the many forms of mere overgrowths which are not distinctly purposive, such as fatty growths about the neck, enlarged prostates, thyroid glands, and the like.

The resemblances between the innocent tumors and the cancerous may seem to indicate so close relation that they ought to be regarded as of essentially the same nature. But I believe that an unlikeness indicating differences yet more essential may be observed in them, and it is expressed in our calling them severally innocent and malignant growths. Malignant is nearly synonymous with cancerous; and though the name is sometimes treated with disrespect, as being figurative and without scientific meaning, yet as an expression of certain qualities shown in the method and course of the diseases to which it is applied it is neither unfit, nor, I think, unmeaning. For the qualities which the name "malignant" indicates are far more distinctive, more surely diagnostic, of this group of diseases, than are the minute structure and chemical composition of the diseased parts, or even than the method of their growing; and in this is an example of what we must hold in the study of all diseases, for pathology is a part of biology, and not derived chiefly from the study of anatomy and chemistry.

The life-history of diseased parts and growths; the shapes that they assume; their construction; their changes as they grow, develop, or decay; the modes in which they extend, or ulcerate, or die; their products; their influence on adjacent and on distant parts, and on the whole economy—all these things, in so far as they are not dependent on evident structure and locality, are true signs of essential variation of material composition. They are the signs of the very nature of the diseases in which we observe them.

It is thus with morbid as it is with natural structures, and, indeed, with all living organisms. The characteristic shape, construction, and manner of life and work of each species, or even of each individual, indicate natural qualities and affinities more specific, and of which the manifestations during life are more distinctive than are any others that we can discern. I would, therefore, not discard the name "malignant." It tells with emphasis, yet not falsely or with exaggeration, the general biological character of the whole group of cancers and cancerous diseases, and it may keep us in mind that it is by these biological characters more than by the histological or the chemical, so far as these can as yet be discovered, that their affinities to the innocent tumors on the one side and to the specific diseases on the other, may be judged.

In indicating the relations between the cancers and cancerous diseases and the specific diseases, I shall assume, as I did more than thirty years ago, when I was lecturing here on this same subject, that we usually mean by specific diseases those in each of which the phenomena of common diseases—that is, of such as might be produced by various injuries or external irritations in any healthy person—are modified in some constant and definite manner which gives them what we call specific characters. Every year's study since that time has made it more probable that what was then scarcely more than theory is now a sure general truth—namely, that each specific disease is due to the influence of a distinct morbid substance on some part or parts at which the characteristic signs of the disease can be and are manifested. Two conditions must coincide in each: the one general or diffused in morbid material in the blood; the other local, in some part with which this material produces disease.

I use this vague term "morbid substance" on purpose that I may not pretend to definition or exact description. The reasons are, indeed, constantly increasing for the belief that each of many specific diseases is due to morbid changes produced directly or indirectly by a distinct species of minute parasite, a microbe, a bacillus, or some other vegetable of lowest organization, yet specific—as specific as any of the species much more highly organized. I believe that micro-parasites, or substances produced by them, will some day be found in essential relation with cancers and cancerous diseases. Mr. Ballance and Mr. Shattock have, indeed, lately failed to find any; and if, in such a question as this, negative evidence could prove a negative, certainly theirs might make us hopeless. I would not be so, especially if workers so earnest and so skilful as they are will continue the search; but for the present it will be best to use such terms as morbid material, virus, or specific material, which, I think, we may be sure are at least not erroneous.

The specific diseases which we believe and generally know to depend on morbid materials in the blood are very numerous—the eruptive fevers, many of the diseases of the skin, tetanus, hydrophobia, ague, and many more. They may be vaguely arranged in groups, each of which may include those which are most nearly alike; and the group by which the conformity of cancers and cancerous diseases may be tested is one that includes, as its chief members, syphilis, tuberculosis, glanders, leprosy, and actinomycosis, each of which is known to have a distinct micro-parasite. Let me point out their most important general agreements. And, first, let it be observed that they are included by Virchow among tumors, under the name of granulomata; and I doubt whether they can be justly excluded from the list for any reasons which would not equally justify the exclusion of many of the cancerous diseases. Certainly a tuberculous mass such as one may find in the brain, or a syphilitic gumma in a muscle, or, still more, an actinomycosis in the jaw, has more of the general characters of a tumor than any rodent ulcer has, or many cancers of the lip or tongue. It is at least evident that all these specific micro-parasitic diseases are, in their several measures and in some of their forms, morbid growths and self-maintaining. All agree in this general character; they differ from one another in that each has a definite, characteristic, and diagnostic method of growing, as shown in its shape and in its substance, both tangible and microscopic, and in its relations to the structures which it involves. In these respects they differ from one another about as much as any of them do from cancer.

Besides, in all these diseases, as in the cancerous, the morbid growths are prone to special modes of degeneration, of partial decay, and of death; and then they all tend to ulceration, each with a characteristic method, shown in the shape of the ulcer, the structure of its boundaries, and its mode of affecting the parts on which it encroaches.

And all the cancerous and the others alike are at some time infective; some by inoculation, all by invasion of adjacent parts, or by the transmission of materials, through lymph-spaces, lymphatics, or blood-vessels, to parts far off.

Now I venture to hold that likeness in the characters so significant as these is evidence enough of essential likeness and of close affinity in all the diseases in which they are observed; and, therefore, that as we know that in tuberculosis, syphilis, leprosy, and the rest, there is for each a specific morbid material in the blood, so we should believe that there is at least one in cancer and cancerous diseases. The fact that it has not yet been found is not sufficient to prove that it does not exist.

We should observe here the same rule as we do in other groups of specific diseases. For example, among specific fevers, so-called, there is a similar general likeness, and they are regarded as a separate group or genus, call it what we will; and in this group there are many different fevers, each of which, though in many things like the others, has special and diagnostic characters, chiefly in the places, whether skin or glands or any others, in which it shows its local characters. Of many of these fevers we know that each is associated with a different morbid material in the blood, a micro-parasite or whatever it may be; of the rest, we do not know this, but we do not doubt it; we are as sure of it as of anything in pathology not certainly known. So may we be, I think, that cancer and cancerous diseases are specific in the same sense as are those other diseases to which I have shown their general likeness. There are some unlikenesses between them: cancer cannot be inoculated, it is not contagious; but these are negative. I believe that there are no positive generic unlikenesses; and as to the differences among them, the diseases that are certainly specific do not differ more from cancer than they do from one another.

Let me note also one more likeness among all these diseases—namely, that, as we see them in practice, we cannot but observe degrees of conformity to what may be regarded as the typical forms of each. Just as I said that there are all degrees of transition from the innocent tumors to the cancerous, and to the mere overgrowths that are hardly abnormal, so are there all degrees of less or more malignancy. And, similarly, we may trace all gradations from the typical tuberculosis, through the less or more of scrofula, to what some call mere delicacy of health; or we may trace syphilis till we doubt its existence, or guess at it in some combination with scrofula or gout.

But now that I may illustrate the influence of different kinds of virus in the production of morbid growths, let me point to some of those occurring in plants.

The whole study of tumors may, indeed, find admirable illustration in vegetable pathology. For example, I think that some of the best evidences, even nearly the proofs, of the truth of Conheim's explanation of the origin of tumors, at least of the innocent ones, from portions of germinal tissue remaining undeveloped, may be seen in some of the xylomata or woody tumors which may be found on trees, especially on beeches and cedar-trees; for in these it is often evident, and always probable, that they have grown from buds, or "sleeping eyes," as they have been called, which have remained for a time dormant, inactive, enclosed within normal structures, and then have, as it were, awakened and grown, after a manner of their own, with good woody tissue, but separate and purposeless. Our museum has specimens of such tumors —oval or nearly spherical masses of hard wood, well defined, concentrically laminated, either lying just beneath the bark of the branch or trunk in which they have grown, or nearly separated and cast out. Some of them, like polypi or exostoses, have pedicles continuous with the proper wood of the tree, and some have little outstanding twigs or branchlets, outgrowths from the buds in which they themselves had their origin.

And if these and the vast number of growths of the same kind observed in plants may illustrate the apparently spontaneous production of the innocent tumors from germinal structures delayed in their development, so may galls illustrate the influence of a virus in exciting morbid growths. They may, indeed, illustrate both the conditions requisite for the manifestation of a specific disease—the specific morbid material and the part appropriate to its morbid influence.

Of these galls, which may fairly be called heterologous growths, as the xylomata may be called homologous, there are more than a thousand forms already known, and each form is produced by a different specific virus, as we may safely call it, inserted by a different species of insect in a leaf or some other part of a plant, The very nature of the virus which is usually inserted with the insect's egg is, I think, unknown; but so constant are its properties, and so exactly defined, that the specific characters of each insect are not more invariable than are those of the galls which it has made to grow. As we may describe the specific characters of each insect, so may we those of its appropriate gall; and so may we, therefore, speak of each form of gall as due to a specific virus. This is especially seen when different kinds of virus are inserted in similar textures, as when one finds three or four different galls produced by as many different insects on the same leaf.

The oak leaves which I have here show these facts well. I am indebted for them to Mr. Rolfe, of the Royal Gardens at Kew. Here are, as he has written, ten branchlets of the common oak, and their leaves bear, altogether, ten different forms of galls produced by ten species of insects; two, three, or four forms being on each leaf.

The only variation shown is in some spangle-galls formed on the leaf of a variety of the common oak, which are distinguished by their purple color, but not by any apparent difference of structure.

Many of the galls are small, and may seem to you comparable with mere pustules formed of little more than disturbed natural structures; but they are not so; they are all outgrowths, in evident continuity with the natural structures yet different from them—often very different. All this is more plainly seen in the larger kind of gall, each with its well-defined characteristic shape and construction, and its minute structures differing from the healthy structures with which they are continuous as widely as do cancerous structures from those of the parts in which they grow. And it may be observed that in all, whether large or small, the specific differences are marked by shape and pattern and other large characters more than they are by any minute structures as yet discerned.

I will not be tempted to go further in this intensely interesting field of pathology. I wish I could provoke some to pursue it, some who would study it pathologically with the same care and skill as Mr. Rolfe and others have studied it, as a part of natural history. It must suffice now to have shown in it how certainly each of a large number of morbid growths, each as heterologous, each as specific as that seen in any cancer or cancerous disease, is produced by the influence of an appropriate specific virus.

There is, however, one point more which I must mention, for it may help to show that even a well-defined virus can produce its appropriate disease only in some exactly appropriate place or texture. Each insect, with an instinct as unfailing as any natural law, deposits its egg and its virus in the leaf or other part of the very plant in which the right kind of gall can be formed. Each virus requires, as we may say, a susceptible and fitting place and substance; and this is a fact confirming what we believe in the case of many specific diseases, and, as I venture to say, in the cancerous. The two conditions must co-exist—the specific material, microbe, virus, or whatever we may name it—in the blood, which will carry it to every part, and the one appropriate part, texture, or place in which this material can produce the disease.

Now this part may be so small or so ill-defined, it may seem so absolutely limited, as to give to the cancer when first found an appearance of being a merely local, a wholly local, disease; especially as the general health may be undisturbed. It may be called local in the sense that it is the only one locality in which it can be formed, but the analogy of the specific diseases gives reasons for believing that it would not have occurred in this place unless there were a specific material in the blood, which was carried to it; even as a gall would not form without the insect's puncture. And the like is evident in many specific diseases in which the presence of a morbid material in the blood is most certain.

For example, tetanus is due to a well-ascertained bacillus, and in the blood this, or some material produced by it, is carried to every part; but it seems harmless to all till, after, it may be, some considerable time, it affects some portion of the spinal marrow.

In hydrophobia there is a specific virus, inoculable, probably a microbe; it is everywhere diffused in the person or animal in whom it has been inserted; it is in the saliva, and, it is said, may pass even to the fœtus in a pregnant woman, or the milk of one suckling; and thus it may be during a period of good health, but at last it produces definite desease at the appropriate nervous center.

In the sequelæ of fevers, where we cannot reasonably doubt that morbid materials remain in the blood, it is only in certain parts that diseases may be manifested. Thus, after scarlet fever it may be only in the tympanum or the lymph glands; or, after typhoid fever, in some cases only, in portions of the periosteum; in others, only in a testicle or in a small portion of one vein, or of the spinal marrow. These last are, indeed, very illustrative cases. After all the signs of typhoid fever have passed away, when the convalescence is established and all the waste and damage of the disease are being repaired—while thus, in respect of general nutrition, the health might be deemed above its average, we may find an acute inflammation of one portion of the periosteum of one bone. It is surely an evidence that that one portion was the only portion of the body in and with which the something in the blood could generate disease. It seems the more evident in the fact that sometimes the periostitis has appeared symmetrically on both the tibiæ. The two portions of periosteum symmetrically placed were identical in composition, as symmetrical pieces of the body often are; therefore both were similarly disturbed; no other part being exactly like them, no other was disturbed. In all the body nothing was susceptible of the disease except these two pieces.

Such facts as these deserve very thoughtful study, as evidences of the exceeding fineness of the differences among different parts of what seems to us the same structure. If a diseased process—say a syphilitic eruption—is evident on one portion of skin and not on another, it is an evidence that these two portions are not exactly alike. Whether the difference be in structure, or in composition, or in relation to the nerve force it may not be possible to tell; but there is a difference; they are not exactly alike, though they may appear so to every test but those of disease. The evidence is of the same kind as that by which a chemical test determines the difference of two solutions; only the test in pathology is far more delicate.

Now these considerations have a definite bearing on the question of localization of cancer. There may be the appearances of perfect health; some have even thought that cancer is due to a kind of overflow of health; and, certainly, there is no greater fallacy than to think that, in its early stages, it is indicated by a cachexia; yet, with all this general health, the specific morbid material may be in the blood. If there be in the body a part however small, which is susceptible of cancer, this may become cancerous; but we may fully believe that, if this one part had been as insusceptible as all the rest, the morbid material would have remained in the blood harmless and unobserved. Such things are sure in some of the specific diseases. Syphilis may reappear after years in which no sign of it could be found; or malarial fever may be for years dormant, till, with some accidental disturbance of the health, it may be renewed with its specific characters unchanged. In both cases we must believe that some morbid material remained inactive and apparently harmless in the body.

In a large number of instances we have, I think, no knowledge of the reason why the evidences of any specific diseases naturally appear in one part of the body rather than another; no knowledge of the reasons for the different powers of resistance or self-maintenance in different parts. We cannot tell why small-pox is especially manifested at the skin, or typhoid fever in Peyer's follicles, or tertiary syphilis in a piece of periosteum or muscle. But in all specific diseases, and in cancers more than in any, parts are rendered apt to become the seats of diseases after injury, or in degeneracies, especially those produced by long-continued irritation. Thus cancer increases in frequency with the advance of age and of senile degeneration. Its frequency in the breasts and the uterus before old age coincides with what may be deemed their early senile changes, when they cease to be capable of their proper purposes. So, too, all cancerous diseases are apt to form in parts congenitally defective; and still more they follow injuries, sometimes very quickly. More commonly still they appear in parts that have long been the seats of some "irritation," as we call it, as in the scars of burns, or in syphilitic tongues or gums, or cheeks irritated by bad teeth, or in lips irritated by pipes, or tongues by hot tobacco smoke. Similar to these are the soot cancers, and the petroleum cancers, and those of the abdomen and thigh, which are seen in Cashmir, in consequence of wearing a hot brasier over these parts.

Now, all these facts have led to our speaking of parts "becoming cancerous," and the term has, I think, been by some taken as implying that the beginning of a cancer is altogether local, and that the textures of a part may, as it were, of themselves, or through some common irritation or degeneracy, or in the course of syphilis or other diseases, change themselves and becomes cancerous—change, that is, their whole nature and mode of life from that which is common to that which is specific, or from one specific method to another. But this is far from being a fair deduction from the facts; for all these irritations and degeneracies are in many persons ineffective, and the facts observed are consistent with the much more probable belief that these degenerative changes only make the parts less able to maintain themselves, less able to resist the invasion of any morbid material in the blood which is brought into contact with them.

Here is, indeed, another likeness of cancer and cancerous diseases to the chief specific diseases. An injured part may become the seat of syphilitic disease, but this can be only in a syphilitic person; or of tuberculous disease, but only in a tuberculous person; or of gout in one gouty; and even small-pox may be confluent at an injured part, though discrete at every other. Thus, in diseases recognized as specific, in those that certainly have a specific morbid material in the blood, we recognize a local injury or irritation as making a part susceptible, or apt for the manifestation of the specific morbid changes. So should we think when cancerous disease appears in such an injured or irritated part; and if we are to speak of such parts as becoming cancerous, it should only be with the understanding that they are becoming likely to be the seats of cancer if there be the other conditions required for that disease.

Really, to suppose that any previously healthy part could of itself, or in direct consequence of any ordinary change affecting it alone, so definitely alter its method of life, its shape and structure, its manner of growing and degenerating, as to become cancerous; and, still further, to suppose that all parts, however unlike in health, could change themselves into likeness as cancers—all this would be to assume more than can be matched in all the range of sure pathology or of natural history.

And the difficulty is not diminished by observing that the change is wrought in embryo structures. Embryo cells or protoplasms can no more of themselves change their destination, or by any common force be driven further from it, than any complete structures can. In so far as the destiny of germs and other embryo structures is not absolutely determined by inheritance, it is determined by their environment; they may be assimilated by force of the structures next or near them, and if these structures be cancerous the embryo structures may become cancerous; but to assume that such shapes and modes of life as we see in the tuberculous, the leprous, or the cancerous diseases, can be self-assumed by embyro structures or by protoplasms, is scarcely less than to assume that an embryo gland might of itself change its destiny; so that an embryo liver might become a lung.

I could, indeed, imagine that in the hereditary transmission of cancer there might be transmitted such a tendency to likeness to that part of a parent or ancester which was cancerous, that the same part in the offspring might, as of itself, become cancerous; but even if this were sure, it would not explain the numerous cases in which the cancer in the offspring is not in the same part as it was in the progenitor, or those in which many members of one family have cancer in many different parts. To explain these we need to assume that there was transmitted a tendency to the production of the cancerous material in the blood; indeed, it would be hard and unfair to think that one tendency would be transmitted without the other. If both are transmitted, we may well suppose that cancer would form somewhere; but really one can be only guessing at questions such as these.

The fact of frequent inheritance is sure in this as in many other diseases, but its method is so mysterious; it is so utterly impossible to conceive the form or the material in which the impregnated ovum contains that which will become or be made cancerous, that it cannot be safe or useful to think that we can deduce anything from the bare fact. We are apt to speak of potentiality, tendency, and predisposition as if they were forces independent of matter or of structure; but when we try to think of the very things on which they depend, we find ourselves in a cloud-land of mystery, where the difficulty of discovering truth is as great as the facility of guessing.

I have limited myself to the pathology of primary cancer and cancerous diseases, and I shall not go far beyond it; for nearly all that happens in the history of secondary—or, as they are now wrongly called, metastatic—cancers, or of some that recur after operations, might happen as consequences of that which was at first an entirely local disease. If we could believe a primary cancer to be formed by any part in and of itself, then it would be easy to believe that this cancer would infect adjacent structures, and that materials would be carried from it in the lymphatics and the blood-vessels, and would grow and multiply in distant parts, and in them be centers for yet further infections.

But I hope that I have shown reasons enough for believing that primary cancerous growths are not merely local diseases, but require for their production at least the two conditions that I have spoken of. Once formed, the secondary diseases and much of all that follows, even to the inevitable end, may be due to transference of cancerous materials from the primary growths. But I do not think that all the secondary and yet later events can be thus explained. We have no reason for believing that the morbid material in the blood is always exhausted in the formation of the primary cancer, and it seems more probable that in some form this material remains or is renewed, and that to this, as well as to transference from the primary disease, the secondary and later changes are to be ascribed. I believe there are facts in the history of secondary cancers which cannot be explained by the merely mechanical process of penetration or of embolism. There are often evidences of other than mechanical relations between the primary and secondary. The organs that are most frequently the seats of primary cancer are very rarely the seats of secondary. The uterus seldom becomes cancerous in one who has cancer of the breast; still more rarely does the breast become cancerous as secondary to the uterus; and I suppose no one ever saw two cases of cancer of the face or lip or any part of the digestive canal following cancer of the tongue. Then there are the well-known cases of cancer of the thyroid, in which the secondary disease effects, as if by selection, the bones more often than any other part. And my son has gathered facts from the records of great numbers of cases of cancer which seem to indicate that the relations between the primary and the secondary seats of cancer may be compared with those which he found between the primary and secondary seats of suppuration in pyæmia. Certainly, some of those relations—such, for example, as that between the peritoneal and pelvic organs and the parotid gland—could not be explained by any mechanical embolism. Similar relations, I think, will be found between the primary and the secondary and later seats of cancer.

But I shall not discuss these questions; the main interest of the whole subject is in the biology of the primary cancer or cancerous diseases, and I hope I shall be deemed to have shown that in this, as in all the other characters of which I have spoken, there is so great likeness and so little unlikeness between these diseases and the specific ones with which I have compared them, that we may expect equal likeness in respect of the material on which they essentially depend. If it be so, then we may justly hope that by careful study, both clinical and experimental, we may find the morbid material, microbe, or ptomaine, or one or more of their products to which cancer is due. And if this be attained, then may we hope to be much nearer to a remedy, preventive or curative.

It would be easy to ask questions which this theory of the specific nature of cancer could not yet safely answer; to raise doubts which might seem to show it to be erroneous or insufficient. It may be asked, Why, then, is cancer not inoculable? Whence does its micro-parasite come? Why cannot it be found? Can one micro-parasite produce such various forms of disease? Where, in the unbroken series between innocent tumors and cancers, does the parasitic influence come in? I could not answer these questions. I could ask many more like them; but I can remember that when I last lectured here on this subject, if similar questions had been asked concerning tuberculosis, leprosy, tetanus, or many other diseases now known to be dependent on parasitic or other specific materials in the blood, they could not have been answered; or, most probably, those which would then have been answered "No" would now be more correctly answered "Yes."

And now it may be asked, if all these things be in due time proved, what will the practical utility be; what the better treatment of cancer? I cannot tell. I promised only to suggest how best we might try to find out, and at least we may hope for more than is gained by the merely local operative treatment.

I should have tried to deal with this, but that the whole subject is so thoroughly and so admirably treated by my friend and former pupil, Mr. Butlin, in his recently published work on the "Operative Surgery of Malignant Disease," that I could not even in many lectures have taught so much as he does; but it is clear that, great as is the good that operative surgery may do when practiced with the prudence which he urges, it does not do all we want; the disease returns even after complete removal of the diseased parts. All that is locally wrong may be removed, the local portion of the disease may be deemed cured, but something remains, or after a time is renewed, and similar disease reappears, and, in some form or degree, is usually worse than the first, and always tending towards death. It is true that, in less measure, the like of this may be observed in some of the cases of specific diseases which appear medicinally cured. Ague may have been cured, as we say, with quinine, or syphilis with mercury, and for years no sign of either may have been observed, but sometimes one will reappear in its old form, or as modifying some other disease. Especially we may see this in persons who have suffered with ague, or any similar kind of malarial fever, or even without suffering from it have been exposed to the malarial poison. They may have been in good health for any number of years, but the ordinary changes following any considerable operation may bring out some dormant material, and all the characteristics signs of the fever may for the first time appear, or may be renewed, and may be cured, as we say, with quinine.

Still, we might well be nearly content if we could find a medicine as efficient against cancer as mercury and quinine are against syphilis and ague, especially as the recurrences of these diseases are less, not more, severe than the primary. Such a one we have not. Can it be reasonably hoped for? Yes, and the more so if we may count cancer among the specific diseases, for it is of some of these that we most surely have remedies more nearly complete than we have of any other disease whatever.

The name commonly used of specific medicines may tell this. There are none so definitely useful against diseases of any other kind; and, indeed, if we had to reckon cancer as a local disease, we should have to look for a different remedy for it in each locality.

But I can now only commend the study to my juniors. It must be both clinical and experimental, and probably the latter will be the more fruitful. If once the specific morbid material can be found, it may be dealt with as others generally like, but specifically unlike it has been. But I will not guess how. I have tried to show by facts a right way to a good end. I will not now, by guesses, run the risk of pointing to a wrong one.

SYPHILIS OF THE NERVOUS SYSTEM AND ITS TREATMENT. By Landon Carter Gray, M.D., of Brooklyn, N. Y., Professor of Mental and Nervous Diseases in the New York Polyclinic.

Over and above the well-recognized forms of nervous and mental disease, there are certain groups of symptoms which may fairly be regarded as indicative of specific infection, although the proof may not be greater than that to which the lawyers give the name of "prima facie;" i. e., proof amounting to a presumption, which may, however, be rebutted by adequate testimony to the contrary. These symptom-groups, if I may be allowed to formulate from my own experience, are as follows:

(1) Quasi-periodical cephalalgia of a peculiar kind. (Nocturnal. (2) Hemiplegia under forty years of age, with or without preceding cephalalgia of the aforesaid type. (3) Cephalalgia followed by hemiplegia, which bear a singular relationship to one another, in that the cephalalgia ceases immediately upon the supervention of the hemiplegia, and does not recur. (4) Convulsions in the adult, which have not been preceded by convulsions in infancy, and are not of traumatic or nephritic origin, or due to pregnancy, or in an individual subject to migraine. (5) Symptoms indicative of a lesion at the base of the brain. (6) A comatose condition extending over days or weeks, not traumatic, meningitic, diabetic, nephritic, or from typhoid fever. (7) Tabes dor-

salis. (8) General paresis. (9) Spinal lesions in a subject who has had intracranial syphilis.

I have very pronounced ideas with regard to treatment. I have no faith whatsoever in mercury.

I am quite prepared to say, that unless the iodides, with their proper adjuvants—of which I shall speak in a moment—can cure a case of nervous syphilis, it cannot be cured at all. But the dose of the iodides, which is administered by the Germans and French, will often be entirely inadequate. I give the iodides until the symptoms yield, or, until iodism is produced. Should iodism ensue before the symptoms yield, I pursue one of two methods. I first increase the dose of the iodide by about one-third, and rapidly increase each succeeding day. Singular to say, in some cases this increased dosage will cause the iodism to disappear, and the larger doses will be borne very well. Should, however, these larger doses still more increase the iodism, I decrease to one-half of the dose at which the iodism had begun, and continue this decreased dose until the iodism diminishes or disappears, when I again rapidly increase the dose, and am usually able to go on without further trouble. In some few individuals, however, no amount of care will cause more than a certain amount of the iodide to be borne, and such cases, as I have said, are usually of unfavorable prognosis. In some cases, too—fortunately they are rare—even small doses of the iodide will produce a cardiac disturbance that prohibits its administration. I am perfectly well aware that the medical chemist will object that these large doses of the iodide pass through the body, and are quickly excreted by the urine; but I am equally well aware, in the face of this fact, that these large doses of the iodide will cause symptoms to yield that cannot be made to yield by lesser doses. I have given as much as 800 grains of the iodide of potash in the twenty-four hours, and have seen symptoms disappear with these enormous doses that would not yield to minor ones. I administer the iodide after meals, and either in a full tumbler of ice-water, or in a glass of Vichy, or in a glass of Bohemian spring water, the Geisshübler.

But he who expects to cure his patients with the iodides alone, unless the case be so grave as to call for immediate relief, will be disappointed. The human organism must be put in the best possible condition. A generous diet should be employed. Freedom from care and worry, where possible, should be enjoined, and all strenuous exertion of body or mind avoided.

TREATMENT OF HEPATIC ABSCESS BY ASPIRATION, WITH CASES.

By Edmond Souchon, M.D., Professor of Anatomy and Clinical Surgery. Tulane University of Louisiana.

(Read before the Orleans Parish Medical Society.)

1. In this paper I am compelled to be rather minute. It is one of the many instances where attention to details is most important.

2. At the very start we must know well and never forget that

the rate of mortality in abscess of the liver is 80 per cent., as calculated by Rouis from 203 cases, and 77 per cent., as calculated by De Castro from 200 cases.

This shows what a terrible disease it is, and why we should be thoroughly posted and determined in dealing with it, especially in certain cases.

3. The point of all others, upon which depends success, is the *very earliest* interference to remove the pus from the liver. The longer it is allowed to remain the greater the destruction of the hepatic tissue. This rule is imperative, and is in accordance with the laws of general surgery, for it is a recognized fact that whenever pus is even suspected to be forming in a part—the hand or forearm for instance—we would be guilty of bad surgery if we were not constantly on the lookout to locate the pus and liberate it as soon as possible.

It is a question whether, in extensive abscesses of the liver, the patient dies really so much from the amount of pus secreted as from the lack of sufficient hepatic tissue to perform properly the functions of the organ. We all agree to this in talking of the matter, and yet how few of us actually do it in practice. Especially, physicians who do not operate themselves, and are not provided with the proper appliances, should be watchful and call in a surgeon as soon as there is the least suspicion.

4. It is therefore of the utmost importance to be constantly on the lookout for an abscess of the liver when a patient has more or less fever, and is or has been affected with dysentery or diarrhœa, or has a fissure or fistula, or piles, especially if they have been operated on, or the patient has undergone any operation of any kind on the digestive tract, or if he has received a blow in the region of the liver. We should not wait for the patient to complain of pain himself, because, by proper and careful palpation and percussion; we will often detect serious symptoms before the patient himself complains of pain. It is not rare to see patients go about with fever and general abdominal uneasiness for many days, and when compelled to lie up and call in a physician they will say to him that the hepatic pain is only two or three days old, and yet upon examination an abcess is detected, which surely was more than two or three days forming. The signs for which we should be constantly on the alert are the following: Firstly, points of *maximum pain*, located in the epigastrium or the right six lower inter-costal spaces, from behind forwards, determined by both palpation and percussion. I say percussion, because the pain in the epigastrium may be due to peritonitis, giving rise to clear sound. Secondly, a slight *prominence* in the epigastrium. Thirdly, a *spreading or filling* of the intercostal spaces as compared with the other side. This is determined often by the sight on a lean subject, or by palpation with the whole pulp of one of the first three fingers laid into and parallel with the intercostal space. Fourthly, a slight *puf-*

iness of the parts, which is often only detectable by pinching a broad fold of skin on the suspected and on the sound side. Fifthly, a *slight œdema,* which is characterized by the retention of the print of the finger. When this sign is present the most timid should hesitate no more; indeed, valuable time has already been lost. Sixthly, I do not mention *fluctuation,* because things should never be allowed to reach such a period. All the other signs mentioned above are here, as in other parts, almost sure signs of forming deep seated pus, when accompanied by fever, especially. But I am of the opinion that as soon as one or two decided spots of maximum pain have been detected we *must not wait* for any other symptoms, and must *explore at once with the aspirator.*

We must never lose sight of the fact that the *smaller the abscess the greater the chance of curing it by aspiration,* thus rendering useless the employment of other more dangerous operative procedures. The rate of mortality in operations with the knife or trocar is eighty-one per cent. of all cases. Waring gives these figures, but justly remarks that in most cases the operation was performed late. We may say also that antiseptic surgery reduces this mortality now-a-days, but it is still great.

5. There are three important clinical points to consider in the treatment of hepatic abscess. They are the course of the abscess, its depth and its situation in the epigastrium, or in the hypochondrium, under the ribs, where, to reach the liver, we have to go through the thoracic walls, the pleura, the diaphragm, and the peritoneum. The depth and the situation are of secondary importance in aspiration.

6. The clinical factor which of all others commands the whole field of the prognosis and treatment of hepatic abscess is the greater or less rapidity of the course. In a general way it may be laid down as a clinical law that the more rapid the course the less favorable are the prognosis and treatment, and the less rapid the more favorable. It is the constant disregard of this important point which is the greatest cause of conflicting opinions and statements in regard to the treatment of hepatic abscess, which we hear in the discussions of medical societies, and which we read in the medical journals; also of the considerable variations of statistics as a whole or applied to one mode of treatment or the other.

Clinically, abscesses of the liver must be divided into five classes: the suracute, the acute, the subacute, the chronic, and the mixed abscesses.

Suracute abscesses are accompanied with great pain (spontaneous), high fever, 104° to 106°, and last from ten to twenty days in all from the beginning to the ending in death. Such abscesses are benefited by no treatment; they are doomed from the very beginning, and any recovery must be looked upon as most exceptional. They average twenty-eight per cent. of all cases.

Acute abscesses are characterized by much pain, marked fever, 102° to 104°, and last from thirty to forty days. These acute abscesses are those which require the greatest care, solicitude and determination on the part of the surgeon. In these his prompt and early interference may be the saving of a patient's life. It is in these cases that hours count for days and days for weeks; it is here that, if he lets the decisive moment pass he will not find another chance and will be operating against adverse circumstances. Aspiration may succeed with them when they are small. When large (*i. e.*, over three ounces) aspiration rarely succeeds; so that after being aspirated once if there is no marked local and general improvement, it is worse than useless to try it again, since it is a loss of time. More energetic means should be employed *at once*.

Subacute abscesses are accompanied with but little spontaneous pain, little fever, 99° to 101°, and require from sixty to seventy days for their development. In these subacute abscesses time is not so great an element, as their course admits of some delay, but still they should be attended to as early as possible. With them aspiration succeeds well, but in inverse proportion to their size. As a rule a single aspiration cures them, but, *two or three aspirations should be performed* before using other means. The second aspiration should be performed eight or ten days after the first, so as to follow up the advantage gained, and not to let the pus accumulate in as great quantity as before and again distend the contracting cavity. The needle should be re-introduced at the same spot, but if it fails to strike pus the *surrounding region should be punctured* in two or three places before pus be pronounced absent. A recent case in the hospital demonstrated this well.

Chronic abscesses present scarcely any spontaneous pain, and seldom present any fever after they are once formed. Chronic abscesses allow of more deliberation, but we should not lose much time after their recognition, because they may take on an acute turn, which may alter considerably their prognosis and treatment. They are often cured with *repeated aspirations*, but always also in inverse ratio to their size. They may last for months.

Mixed abscesses are those which change form in their development; thus a chronic may become inflamed and henceforth be an acute abscess, with the prognosis and treatment of such; conversely, an acute abscess may gradually become a subacute or chronic one, and its prognosis and treatment then be those of such abscesses.

7. Since we are so fortunate as to possess such easy and safe means as the aspirator for exploring the liver, we should do so upon the least suspicion. I do not know that it has ever done any harm when properly practiced, except in one case, where the patient, upon being punctured, died suddenly, without having taken an anæsthetic, of shock or fright, it is reported. Some even contend that the puncture does good by relieving the tightness of the fibrous capsule, and by the abstraction of blood.

Both these results, however, I doubt, and I do not think that anything of that sort will do, less than the actual hepatic phlebotomy with the largest needle of Dieulafoy's aspirator through the abdominal walls, as recommended by Harley, or after previous laparotomy, as done by Kelly. Recently I was so fortunate as to cure two cases of abscess of the liver by aspiration.

8. I interviewed the surgeons of the city, and though they were men of experience and with many opportunities, I found that Dr. Parham and Dr. Michinard were the only ones who had been successful. All the other surgeons had, of course, resorted to aspiration, but had not succeeded, probably because when the patients were seen by them the disease had progressed too far.

9. Statistics, however, give a better showing than is supposed. Thus we are informed that Dr. Hammond has aspirated the liver twenty-six times, with fifteen recoveries; no ill effects attending the puncture of the liver in the other cases. He punctured in the right lobe, between the ninth and tenth intercostal spaces. McConnell operated upon fourteen cases, of which eight recovered and six died; Waring, eight cases, with four deaths and four recoveries; Sack, twenty-one cases, with eight recoveries and thirteen deaths; De Castro, twenty-two large abscesses with thirty-one per cent. recoveries, and ten small abscesses, with seventy per cent. recoveries. Bartholow cured by aspiration an abscess which had yielded one quart of pus. Harley reports the case of Drs. Wear and Wicks of a woman who was punctured once with a trocar, yielding thirty ounces of pus, and two days later a second time with Potain's aspirator, yielding six ounces; she recovered. One reason why aspiration does not succeed oftener is because patients being benefited by one or two aspirations, leave the hospital or their physicians before being entirely cured, and only return to another when the case is so far gone that there is nothing left to do but to incise. This happened recently in three cases at the hospital.

10. I think it best, instead of using first a small exploring syringe, to make the exploration by using at once the aspirator, so as to remove the pus as soon as struck. Another reason also is that in case a small abscess is struck by the needle, if this is withdrawn to be replaced by the aspirator needle, it is possible to miss the abscess. This has happened to me several times in deep, small abscesses of the surface of the body. It happened to Dr. Parham in his case.

11. The kind of aspirator used is indifferent. At one time I thought that the original strong Dieulafoy, of the large or small size, with a crank and pinion, was the best on account of the thick pus often found, especially toward the end of the emptying of the abscess, when the thick pus lining the bottom of the walls is being sucked. But by actual experience and experiments I found that the aspirators which make a vacuum in a bottle, such as the old Tiernan or the Potain, were just as good. However, it is very important never to fail to try the instrument first with water before using it on the body, thereby making sure that it is in first-class working condition.

12. The size of the needle used is of the utmost importance. The small needle of the Dieulafoy set, measuring one millimetre (one twenty-fifth of an inch), is too small, for it will not draw out all the thick pus. The large needle, measuring three millimetres, is unnecessarily large, and may, after its withdrawal, be the cause of some pus oozing into the peritoneum and producing peritonitis. A case of the kind is reported in the London *Lancet*. From actual experience on three cases I think that the size No. 2, or intermediate size of Dieulafoy's set, measuring two millimetres, or one twelfth of an inch, large enough. I have withdrawn pus that was as thick almost as fluid jelly; so consistent, in fact, as to be emptied from the bottle in lumps, like the white and yellow of an egg when poured from one vessel into another. I have also experimented with it on an egg broken in a teacup, and it sucked all the contents of the cup, white and yellow.

13. When the pus is thick, and when, during the operation, it becomes thicker still, it is important to keep the *pump working briskly*, so as to always have as thorough a vacuum as possible.

14. Before giving the anæsthetic we must carefully determine and mark the points where we intend to make the explorations. We should never forget the *left lobe*, lest an abscess there may escape us. The statistics of Waring, bearing on three hundred cases, locate the abscess in the right lobe alone at sixty-seven per cent., in the left lobe alone at six per cent., and in both lobes at fourteen per cent.

15. The needle should be introduced *perpendicularly* to the surface at the point to be punctured.

16. As soon as the needle has penetrated the flesh, and has buried into it its point and eyes, the vacuum should be turned on so as to go through the tissues with, as it were, a *vacuum in the hand*.

17. The needle should be *driven slowly* to give time to the pus, if any, to be sucked and to reach the glass tube inserted in the rubber pipe about one inch from the brass cock.

18. The depth to which the needle may and should be driven into the liver in search of pus varies, of course, with the region. In the remotest portion of the liver, behind the axillary line, the needle may be driven three and a half inches; in front of the axillary line, to the chondro-costal articulations, two and a half inches, and in the epigastrium, and left hypochondrium, not more than one inch and a half.

19. The depth at which the needle has struck pus, when it does, should be measured and noted with care.

20. If unsuccessful at one point the next point selected should be tried.

21. If *unsuccessful* at one sitting the patient should not be allowed in acute cases to go more than three or four days before another attempt is made, unless, of course, both the local symptoms and the fever decrease.

22. *When pus has been struck* the abscess should be emptied thoroughly, to the last thick bloody drop.

23. I do not favor the washing of the cavity; I think it best to leave it alone. .

24. In a large proportion of cases one single aspiration will cure the abscess, if it be small. Hence the great importance of exploring early and aspirating at once.

25. When aspiration fails the abscess should be dealt with by other means. These will form the subject of future papers.

26. *Resumé of Points of Primary Importance.*—(*a*) When a patient is affected with any disease which may produce abscess of the liver we should constantly observe the hepatic region. Vigilance is the price of success. (*b*) We should explore with the aspirator upon the least suspicion, because the smaller the abscess the greater the chance of success. (*c*) Acute abscesses when small may be cured by aspiration (once or twice), but large abscesses, which refill rapidly after a first aspiration, should not be re-aspirated, but should be treated by other means *at once.* (*d*) Subacute and chronic abscesses are often cured by aspiration. Success is in inverse proportion to their size. They should be aspirated *three or four times* before using other measures.

Case I.—J. S. is 37 years of age. He is a native of this city, and a mechanic by trade; he is of a naturally good and strong constitution, and has a good past history.

In the latter part of March of this year he began ailing from the effects of a general cold, with dysentery and fever, but not so severe as to compel him to lay up.

On the 1st of June, however, he was compelled to take to his bed, and for the first time felt a decidedly localized pain in the right side; the fever still persisted.

On the 2d of June he called in Dr. Beach, who detected an abscess in the right of the epigastric region, between the middle line and the border of the costal cartilages.

On the third of June I was called in, and using a No. 2 needle of the Dieulafoy aspirator, I drew *five ounces* of thick pus which towards the end would come by drops and be as thick as fluid gelatine.

On the 8th of June the abscess seemed *to begin* to fill again, and in order to crush it before it grew, it was aspirated again; it yielded but a half ounce of thinner pus than at first.

On the 9th and 10th of June the patient was taken with a high fever and slight delirium, without any pain whatever in the region of the abscess.

On the 11th of June the fever has disappeared; there is no pain; the abscess has not refilled and the patient is convalescent.

On July 22d he called at my office and is altogether well of his abscess.

Case II.—This case being instructive in many respects, I will be pardoned for reporting it at length.

Mr. C. F. C. is about forty years old; is a lawyer by profession.

Though seldom sick in bed, he is not of a strong constitution; he has been affected recently with extensive troublesome eczema.

On the 12th of May of this year he began to complain of dry colic.

On the 17th of May he suffered much with griping and straining, and had copious passages every hour, which did not last long, however. Dr. Borde attended him.

On the 23d of May he had to take to his bed, with high fever.

On the 30th of May he took twenty grains of quinine, and as much on the following day; the fever was cut short, but the diarrhœa continued.

On June 1st the fever returns with greater violence, and for the first time he complains of some pain in the right side.

On the 4th of June I was called to assist Dr. Borde. The diarrhœa was better, but the patient had fever every day to 101° in the morning and often as high as 103° in the evening; he complained of a general diffused pain over the subcostal portions of the liver, beginning as high up as the seventh rib, coming to the last rib and extending as far back almost as the angle of the ribs.

By the 12th of June there developed some distinctly localized painful spots, and also a very slight œdema all over the region. A No. 2 aspirator needle was introduced in the eighth intercostal space in front of the axillary line, and *seven ounces* of thick pus were removed. This amount was considered discouraging on account of the acuteness of the symptoms. The aspiration was followed by local relief, by the absence of the morning fever, and a diminution of about a degree in the evening fever.

On June 15th it was decided to make another aspiration, as the amount drawn at the first aspiration was large, as the evening fever still persisted, and the œdema remained. The needle was accordingly introduced at the same spot, and *five ounces* of pus removed. This also served to give relief, but not very readily.

On June 17th the patient spat up about three ounces of chocolate-colored pus.

On June 19th the spitting of pus had stopped during the previous day; the fever returned as high as ever, with pain and distention of the side. An incision of one inch was made in the eighth intercostal space, behind the axillary line; about one and a-half pints of somewhat fetid pus were removed. A long probe was then introduced perpendicularly to the surface and did not penetrate more than three inches towards the left side; it was then directed forwards and upwards towards the epigastrium, and it penetrated six inches; lastly, it was directed backwards and upwards towards the diaphragm, and it penetrated not less than seven inches. The cavity was thoroughly washed with carbolic acid, and a large drainage tube of three-eighths of an inch introduced. It penetrated six inches; the edges of the wound were thickly dusted with iodoform, and a large pad of bichloride absorbent cotton was placed over it. The cavity was thoroughly washed twice a day, after removing the tube. The cotton dressing had to be changed once during the intervals of the dressings. This was followed by the disappearance of the fever and of the pain, and by an improvement of the appetite.

On June 28th the fever returned in the evening, and the patient complained of a *slight* pain in the *left side*, between the middle line and edge of the ribs. From this day his appetite is not so good; the fever returns every evening to 102° ; his face shows marked alteration ; his strength is giving way, and we are much discouraged, especially on account of the great heat of the summer.

On July 4th he has rapidly lost so much ground in these last few days that his case is considered hopeless and his death but a matter of a few days.

However, it was advised, as a last resort, to remove him to Bay St. Louis, with the hope that the pure and cool sea air might give him some chance. The family was made acquainted with these facts, and also of the possibility of his dying on the way. All risks were accepted to give him a last chance.

On July 5th the Charity Hospital ambulance called for him at 7:30 in the morning ; he was lying on a wooden stretcher, six feet long and twenty-two inches wide, to enable him to go through the car-doors, as the patient was too weak to stand or to be carried in arms. The car selected was an ordinary passenger coach, because, in the Pullman cars, the drawing room at one end and the smoker at the other, would not let the stretcher go through Boards were laid over the backs of the seats and a small mattress laid upon these boards. The stretcher was placed upon the mattress. Bay St. Louis was selected because it was the shortest ride. It was reached in two hours, and at 11 o'clock A. M. the patient was safely landed in his bed ; his face showed fatigue but his pulse was fair enough.

On July 6th, the next day, the fatigue of the journey told more terribly ; he was extremely weak, much oppressed, with a small and frequent pulse, with sunken eyes, drawn features and sallow complexion ; the fever still continued 102½°.

On July 8th the patient was placed on a lounge and taken out on the front gallery, which was shaded by a large oak—the sea breeze fanning him all day.

On July 9th a slight reaction began to take place, very gradual and very slow.

On July 11th the pain in the left side is more acute upon pressure and can be located at once. Upon examination there appeared a slight prominence on the left side of the median line ; there is evidently a small abscess forming there, and I would much like to aspirate it at once, but I am afraid that the shock will interfere with the slight improvement which has begun to manifest itself.

On July 14th the patient is decidedly and unmistakably a little stronger ; the complexion, the eye, the voice, the strength show it ; the fever has disappeared for the last two nights. The prominence in the left side is still there and is still painful. It is decided to aspirate it now. Very little chloroform is administered, and a No. 2 needle of the Dieulfaoy set is used. Two and a-half ounces of thick pus, especially thick and bloody towards the end, are removed.

On July 31st the abscess has not refilled and the patient's strength is returning with remarkable rapidity. He sleeps without opiates, eats of anything with good appetite, and sits erect in a chair. He soon walked to the table to his meals. The abscess on the right side is still running, but does not discharge more than a teaspoonful at each dressing. The same large drainage-tube is kept in, but it has to be cut down to two inches, and a little force has to be used to drive it in fully. No straight probe can enter the cavity any more, but upon giving the probe a curve of a third of a circle it then enters, to the depth of five inches, what seems to be a sinus or track directed upwards, forwards and towards the left; the probe cannot be made to move in it, showing that the track must be rather narrow.

On August 5th the large tube cannot be introduced far enough to hold in place, and a small one is put in its stead.

On August 10th the small tube itself does not penetrate deep enough to hold in place, and it is removed. The wound soon closes and the patient is well, feeling better and weighing more than he has for many months.

Case III.—This case occurred in the practice of Dr. F. W. Parham.

The following is the doctor's account of it:

A negro man, about 35 years of age, consulted me at my office several years ago. He had suffered with chills and fever for some time, and at this time had a temperature of 101°, was reduced in flesh and strength, had little or no appetite. Inspection showed distinct bulging of the hepatic region, intercostal spaces obliterated, and there was marked tenderness. The most prominent part of the bulge was about the seventh, eighth and ninth ribs, and the enlarged liver extended below the costal arch and above the sixth rib, main line. A hypodermatic syringe was used, withdrawing easily a syringe full of thick, whitish, laudable pus. I then made an appointment to meet him next day at his house.

I took Dr. Shepard along. We had some difficulty in again finding the pus, having to use the hypodermatic needle some half dozen times to locate it. When we found the place the aspirator (Potain's) was used, and about one ounce of pus drawn out. No more could be obtained, though the liver was searched in various places. The fluid was withdrawn from the eighth intercostal space, in my recollection, just behind the axillary line.

General treatment was resorted to—iron, quinine and ammonium chloride—and he slowly improved, finally recovering.

I saw him some months afterwards. He was then engaged in wheeling coal—pretty good evidence of his returned health and strength.

Case IV. — Dr. Michinard's.—John Elman, aged 55 years, was admitted in the Charity Hospital on July 2d, 1886. He is a German but has resided in Louisiana for the last forty years; he is a shoemaker by trade; he drinks moderately.

He states that about two days prior to his entry into the hospital he was drinking cold beer, when all at once a severe pain in the region of the stomach was felt; the pain since then has caused incessant suffering. There exists in the epigastrium a large tumor, which recalls a distended stomach. The tumor is not very sensitive to the touch, and has a compressible feeling. The patient has no elevation of temperature. The pain soon abated and returned occasionally, but not often The appearance of the patient is pale and anæmic.

On July 10th the tumor was aspirated and four ounces of pus removed.

On July 13th, three days afterwards, the tumor was again aspirated, and more pus removed. No further accumulation took place.

On July 28th the patient was discharged apparently well, and never returned to the hospital since.

ABSTRACTS.

THE TREATMENT OF ABORTION FOR THREE YEARS IN THE OBSTETRICAL CLINIC OF FLORENCE.—Fasala has observed the following rules in the treatment of abortion, with good results:

1. An expectant course is pursued when the cervix uteri is closed, and can be dilated with difficulty, and if no signs of the decomposition of the fœtus are present.
2. Under conditions favorable for the introduction of instruments or the hand, the ovum and its appendages are promptly removed.
3. If decomposition has begun, the cervix is dilated by laminaria tents or metallic dilators, and the ovum is removed.
4. Intra-uterine injections for antisepsis are made with warm solution of bichloride of mercury, 1 to 2000; in case of hæmorrhage, hot solution of bichloride of mercury, 1 to 4000, and tamponing the vagina, are used.—*Annali di Obstetricia*, March, 1887.

THE INFLUENCE OF ANTIFEBRINE, SALICYLIC ACID, AND CARBOLIC ACID, ON BODILY TEMPERATURE.—Dr. Hare, in a series of researches reported in the *Therapeutic Gazette* for June, July, and August, 1887, reaches the following conclusions:

1. *Antifebrine* effects *marked* depression of normal bodily temperature.
2. During the depressing action of antifebrine on normal temperature it seems to cause a slight fall in arterial pressure, although this is by no means a constant result, as it may cause a rise.

In the opinion of the writer, however, this drug in lowering temperature acts as an arterial sedative.

3. Notwitstanding the fact that antifebrine influences to such a marked degree normal bodily heat, it seems to possess little power against the pyrexia produced by the introduction of pepsin into the blood, since under these circumstances the hitherto depressed pressure rises, as does also the bodily heat.

This curious fact must depend on some organic changes produced by the digestive ferment.

4. This drug reduces *normal* temperature apparently by influencing both production and dissipation.

5. Antifebrine in fever chiefly reduces the high temperature by decreasing heat production, and is, therefore, a valuable antipyretic.

1. *Salicylic acid* has the power to reduce slightly normal bodily heat.

2. *Salicylic acid*, according to the writer's experiments, has but little power over pyretic temperature.

3. *Salicylic acid*, when acting on either normal or abnormal temperature, does not seem to have much influence on the circulation either in regard to pulse-rate or arterial pressure. Any change, when it occurs, seems to be an increase of arterial pressure rather than a decrease, and this increase occurred more markedly in the normal than in the pyretic animal.

4. *Salicylic acid*, in reducing normal temperature, probably acts on both functions, namely, production and dissipation, while it seems to act very uncertainly and irregularly when reducing high temperature, failing frequently, as before stated, to prevent an increase of bodily heat.

1. *Carbolic acid* possesses considerable power in lowering normal bodily temperature.

2. It possesses more influence over pyretic temperature than does salicylic acid, generally preventing a rise or causing a fall of temperature, but sometimes failing to do so.

Carbolic acid probably decreases arterial pressure when lowering temperature.

4. That its mode of decreasing normal bodily temperature is as yet not fully understood, although it would seem probable that it acts on both heat functions.

5. When influencing bodily heat in fevers it acts chiefly by decreasing production, although it affects both functions.

THE following is an abstract of a paper read before the Section in General Surgery by DR. NICHOLAS SENN, of Milwaukee, Wis.:

1. ARTIFICIAL INTESTINAL OBSTRUCTION — STENOSIS. — (*a*) *Partial enterectomy and longitudinal suturing of wound.*—Traumatic stenosis from this cause becomes a source of danger from obstruction or perforation in all cases where the lumen of the bowel is reduced

more than one-half in size. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practiced, as such a procedure is invariably followed by gangrene and perforation by intercepting the vascular supply to the portion of bowel which corresponds to the mesenteric defect.

(*b*) *Circular Constriction of Intestine.*—The immediate cause of gangrene in circular constriction of a loop of intestine is due to obstruction of the venous circulation, and takes place first at a point most remote from the cause of the obstruction.

2. FLEXION.—(*a*) *Flexion produced by Partial Enterectomy and Transverse Suture of Wound.* — On the convex surface of the bowel a defect an inch in width can be closed by transverse suturing without causing obstruction by flexion. In such cases the stenosis is subsequently corrected by a compensating bulging, or dilatation, of the mesenteric side of the bowel. Closing a wound of such dimensions on the mesenteric side of the bowel by transverse suturing may give rise to intestinal obstruction by flexion, and to gangrene and perforation by seriously impairing the arterial supply to, and venous return from, the portion of bowel corresponding with the mesenteric defect.

(*b*) *Flexion caused by Inflammatory and other Extrinsic Causes* gives rise to intestinal obstruction, only in case the functional capacity of the flexed portion of the bowel has been diminished, or suspended by the causes which have produced the flexion, or by subsequent causes independently of the flexion.

3. VOLVULUS.—As in flexion, a volvulus gives rise to symptoms of obstruction when the causes which have given rise to a rotation upon its axis of a loop of bowel have at the same time produced an impairment or suspension of peristalsis in the portion of bowel which constitutes the volvulus, or when a diminution or suspension of peristalsis follows in consequence of the rotation.

4. INVAGINATION.—Accumulation of intestinal contents above the seat of invagination is one of the most important factors which prevents spontaneous disinvagination, and which determines gangrene of the intussuscipiens.

Spontaneous reduction is not more frequent in ascending than descending invagination.

The immediate cause of gangrene of the intussuscipiens is obstruction to the return of venous blood by constriction at the neck of the intussuscipiens. Ileo-cæcal invagination, when recent, can frequently be reduced by distentions of the colon and rectum with water, but this method of reduction must be practiced with great care and gentleness, as over-distention of the colon and rectum is productive of multiple longitudinal lacerations of the peritoneal coat, an accident which is followed by the gravest consequences.

The competency of the ileo-cæcal valve can only be overcome by over-distention of the cæcum, and is effected by a mechanical separation of the margins of the valve; consequently it is imprudent to attempt treatment of intestinal obstruction beyond the ileo-cæcal valve by injections per rectum.

ENTERECTOMY.—Resection of more than six feet of the small intestine in dogs is uniformly fatal. The cause of death in such case is always attributable to the immediate effects of the trauma. Resection of more than four feet of the small intestine in dogs is incompatible with normal digestion, absorption, and nutrition, and often results in death from marasmus.

In cases of extensive intestinal resection the remaining portion of the intestinal tract undergoes compensatory hypertrophy, which, microscopically, is shown by thickening of the intestinal coats and increased vascularization.

PHYSIOLOGICAL EXCLUSION.—Physiological exclusion of an extensive portion of the intestinal tract does not impair digestion, absorption, and nutrition, as seriously as the removal of a similar portion by resection.

Fecal accumulation does not take place in the excluded portion of the intestinal canal.

The excluded portion of the bowel undergoes progressive atrophy.

CIRCULAR ENTERORRHAPHY.—A modification of Jobert's invagination-suture, by lining the intussusceptum with a thin, flexible rubber ring, and the substitution of catgut for silk sutures, is preferable to Czerny-Lembert sutures.

The line of suturing on neck of intussuscipiens should be covered by a flap or graft of omentum in all cases of circular resection, as this procedure furnishes an additional protection against perforation.

In circular enterorrhaphy, continuity of the peritoneal surface should be secured where the mesentery is detached by uniting the peritoneum with a fine catgut suture before the bowel is united, as this modification of the ordinary method furnishes better security against perforation on the mesenteric side.

INTESTINAL ANASTOMOSIS.—The formation of a fistulous communication between the bowel above and below the seat of obstruction should take the place of resection and circular enterorrhaphy in all cases where it is impossible or impracticable to remove the cause of obstruction, or where the pathological conditions which have given rise to the obstruction do not constitute an intrinsic source of danger. Gastro-enterostomy and jejuno-ileostomy should always be made by approximation with partially or completely decalcified perforated bone-plates.

In making an intestinal anastomosis for obstructions in the cæcum or colon, the communication above and below the seat of obstruction can be established by apposition with decalcified perforated bone-plates, or by lateral implantation of the ileum into the colon or rectum. An ileo-colostomy, or ileo-rectostomy, by approximation with decalcified perforated bone-plates or lateral implantation should be done in all cases of irreducible ileo-cæcal invaginations where the local signs do not indicate the existence, or occurrence, of gangrene and perforation. In all cases of threatened gangrene and perforation, the invaginated portion should be excised, both ends of the bowel closed, and the continuity of the intestinal canal restored by making an ileo-colostomy by approximation with perforated decalcified bone-plates or by lateral implantation. The restoration of the continuity of the intestinal canal by perforated approximation-plates, or lateral implantation, should be resorted to in all cases where circular enterorrhaphy is impossible on account of the difference in the size of the lumina of the two ends of the bowel.

In cases of multiple gunshot wounds of the intestines involving the lateral or convex side of the bowel, the formation of intestinal anastomosis by perforated decalcified bone-plates should be preferred to suturing, as this procedure is equally, if not more, safe and requires less time.

ADHESION EXPERIMENTS.—Definite healing of an intestinal wound is only completed after the formation of a net-work of new vessels in the product of tissue-proliferation from the approximated serous surfaces. Under favorable circumstances quite firm adhesions are formed between the peritoneal surfaces within six to twelve hours, which effectually resist the pressure from within outward. Scarifaction of the peritoneum at the seat of approximation hastens the formation of adhesions and the definite healing of intestinal wounds.

Omental grafts, from one to two inches in width, and sufficiently long to completely encircle the bowel, retain their vitality, become firmly adherent in from twelve to eighteen hours, and are freely supplied with blood-vessels in from twenty-four to forty-eight hours. Omental transplantation, or omental grafting, should be done in every circular resection, or suturing of large intestinal wounds, as this procedure favors the healing of the visceral wound and furnishes an additional protection against perforation.

The speaker presented some valuable specimens in which the operation had been performed on dogs; these specimens fully illustrated the value of the method advocated, and its entire feasibility, the union in some of these specimens being most remarkable. He called attention to its use in stenosis of the pyloric orifice. The duodenum or the first convenient coil of intestine being connected with the stomach by the method advocated, adhesions would form in from fourteen to twenty-four hours.

The adhesions in the specimen shown were wonderfully firm and strong.

THE EFFECT OF TOWN LIFE UPON THE HUMAN BODY.—It is generally recognized that the effect of town life upon the physique is not beneficial, and as the population of boroughs has now exceeded that of the country, the fact becomes one worthy of our attention. The great and rapid increase of large towns at the present time adds to the importance of the subject and deepens its gravity. Of old there were but few large towns, in our modern sense of a "large" town; but Lugol, the great French authority on "scrofula," noted how the population of Paris deteriorated, and how scrofulous were the third generations of persons who came in from the country perfectly healthy. Other observers have noticed the bad effect of town life elsewhere. And the recent researches of Mr. James Cantlie have demonstrated the rarity of a pure-bred Cockney of the fourth generation. Of old the baron lived in his castle, while the populace lived around in villages of limited size. For men of all conditions of life the one thing to be coveted above all others was physical prowess. For work, for war, for games, which were largely mimic war, bodily strength was essential. No courage, no skill, could effectually compensate for the want of thews and sinews. Work, war, sports, revels, all too were conducted in the open air. But civilization brought about changes profoundly influencing the life of the individual. The development of commerce entailed the growth of towns, and then it was found that in the new struggle for existence the battle went rather to the man with the active brain than to the man with a massive framework. The active brain became now the one great thing to be coveted rather than physical prowess. The tendency of town populations is to dwindle, and this dwindling is seen markedly in the feeble digestive capacity of town dwellers. They cannot eat the pastry, the pie-crust, the cakes, which form so large a portion of the dietary of their country cousins. If they attempt these articles of food they give themselves the stomach-ache. Consequently they live on such food as they can digest without suffering—bread and fish, and meat; above all the last —the sapid, tasty flesh of animals, which sits lightly on the stomach and gives an acceptable feeling of satiety, so pleasant to experience. The town-dweller, in his selection of food, is guided by his feelings; he avoids what is repugnant to him. Such selection is natural and intelligible, but it is fraught with danger all the same. Pulmonary phthisis and Bright's disease seem Dame Nature's means of weeding out degenerating town dwellers. The offspring of urban residents are another race from their cousins who remain in the country. The latter are large-limbed, stalwart, fair-haired Anglo-Danes, while their urban cousins are smaller, slighter, darker beings, of an earlier and lowlier ethnic form, and resembling the Celto-Iberian race. And amid this general reversion we can recognize a distinct liver-reversion to the early primitive uric acid formation of the bird and reptile. A recognition of these facts must lead to such modifications of the food customs of town-dwellers as are indicated. The spread of teetotalism and vegetarianism tells of a dark groping in the right direction in blind obedience to the law of self-preservation. There must also follow some modification of the existing system of education, for it is by the imperfectly-nourished town child that the weight of the burden of education is most acutely felt.—*Summary of a paper by Dr. Fothergill, in Nature.*

Death by Decapitation.—The *Progréss Médical*, of July 9th, published a paper, by Drs. Regnard and Loye, on the examination of the head and body of a convict immediately after his decapitation by the guillotine. The prisoner was calm to the last, and not pale, even when his neck was fixed ready to receive the fatal knife. Two seconds after decapitation the cheeks were still rosy, the eyes wide open, with moderately dilated pupils, the mouth firmly closed. No fibrillary contractions could be observed. When a finger was placed close to one eye, no change of expression took place; but on touching an eye or the tips of the lashes, during the first five seconds, the lids closed just as in life. This reflex action could not be elicited from the sixth second after decapitation. The jaws were tightly clenched, and could not be opened by manual force; no similar muscular contraction could be detected in the trunk or extremities. One minute after death the face began to turn pale, the trunk remained flacid, the carotids continuing to throw out blood remaining in the circulatory area. At the end of four minutes the face was quite pale, the upper lids were half closed, the jaws less firmly clenched than before. Irritation of the cut surfaces of the spinal cord failed to produce reflex movements either in the trunk or on the face. For twenty minutes there was no change; then the necropsy was begun. There were signs of old pleurisy and alcoholism. The heart beat actively. On opening the pericardium, the ventricles and auricles continued to pulsate for twenty-five minutes; the former then ceased to beat, but the auricles went on forty minutes longer. Thus the heart beat for an hour after decapitation. Then its chambers were laid open; the left ventricle was firmly contracted, the right relaxed. There was emphysema at the edges of the left lung, as is nearly always observed after death by guillotine. There were bubbles of air in the vessels of the pia mater, and much air in the subarachnoid space. The knife had passed through the lower part of the fourth cervical vertebra. These researches show that not a trace of consciousness remains two seconds after beheading; that reflex movements of the cornea can be excited for a few seconds; that the heart may beat for an hour, the auricles continuing to pulsate alone for over half that period; and that, putting aside the reflex movements of the eyelid, the contraction of the jaws and the jets of blood from the carotids, it seemed in this case as though a corpse had been decapitated, so inert were the remains of the convict. The entry of air into the inextensible and incompressible cranial cavity, after the escape of blood from its vessels, was only to be expected. Drs. Regnard and Loye note how calm and free even from physiological death struggle symptoms, is death by the guillotine. There is not even asphyxia; death is rather due to inhibition similar to that described by M. Brown-Sêquard in animals who succumb to certain irritations of the nervous system. In this country we take on ourselves the responsibility of destroying life judicially. That so grave a task should be done as mercifully as possible is self-evident. Hanging is a very different matter from decapitation. Anglo-Saxon sentiment is against the headsman, but surely a contrivance for a "*mort calme et sans agonie*" might be devised to replace the ill-favored gallows.

STRYCHNIA AS A HEART STIMULANT.—In *St. Bartholomew's Hospital Reports*, vol. xxii., there is a valuable paper by S. Herbert Habershon, M.D., on the use of strychnia by hypodermic injections in cases of heart failure. In this paper Dr. Habershon discusses the *modus operandi* and effects of various heart-tonics, such as digitalis, alcohol, ether, ammonia, and concludes that none of them are so useful as strychnia, in cases in which not only the heart-muscle, but also the nerves which promote and control its activity, are exhausted. The order of excellence seems to be digitalis for a prolonged effect; and ammonia, or ether and alcohol, for a more rapid but less lasting one.

It is somewhat surprising to find the statement that Dr. Habershon has never found ammonia "to act where brandy and ether have not succeeded." This sentence is not easy to analyze, but we incline to the opinion that if ammonia be used by intravenous injection, it will be found capable of arousing the vasomotor and respiratory centres to a temporary activity when nothing else will. The principal value of Dr. Habershon's paper is, in calling attention to the influence on the heart by hypodermic injections of from one-sixtieth to one-thirtieth of a grain of strychnia. He cites cases of disease of the mitral and aortic valve, and of pneumonia which had advanced to a state of cyanosis, with weak and rapid pulse, and hurried or Cheyne-Stokes respiration, in which the use of strychnia seemed to cause the tide of life to turn back, and recovery ultimately took place.

These cases may be regarded as establishing the opinion which he has formed of the great benefit to be derived from the hypodermic use of this drug in conditions of exhausted heart-muscle, accompanied by exhaustion of the nerves which supply the heart. Dr. Habershon suggests that the most convenient solution of strychnia for hypodermic use consists of one grain in fifty minims of water. We would suggest that it would probably be easier to regulate the dose if the solution were only about half as strong as this, consisting of one grain of strychnia to one hundred and twenty minims (two fluid drachms) of water. Two minims of such a solution would contain one-sixtieth of a grain of strychnia, and four minims one-thirtieth of a grain.

We recommend the views just stated to our readers, and hope that their adoption may prove satisfactory to them and advantageous to their patients.

NEW BOOKS AND PAMPHLETS.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Roberts Bartholow, M.A., M.D. LL.D. Sixth Edition, Revised and Enlarged. New York. D. Appleton & Co., 1887.

Bartholow's Materia Medica is a book too well known to the practitioners of medicine to need at this day any review. The question that presents itself to the mind of the practical physician when he sees that a new edition of a favorite author is just from the press is, we take it, this: "Are there sufficient differences from the old edition to warrant me in entailing the expense of the purchase of the new? If so, in what do they consist?" It is with a view to the answer of these two questions that we have gone to some trouble to closely compare the edition of 1883 with the present edition, and to note some of the additions and changes. Generally the preface will give a reviewer some idea of what material alterations have been made; but the author in the present instance gives only this information on that point: "Only by actual inspection in all parts of the work, as it now appears, can the numerous additions to the individual remedies be seen." And we found his statement literally true. Space will not permit a detailed statement of each and every change we have noted, so our readers must be content with some generalizations—with here and there specific statements—from the data we have for reference. The "Schema" at the outset of the book has been recast as a whole, and the divisions and sub-divisions of Part II—"The Actions and use of Remedial Agents," more concisely and logically stated. Next we note an improvement in the article on "Inhalations" and a new article on "Atomization or Pulverization," the latter followed (on pp. 14–15, by an excellent and timely paragraph entitled, "When Should Medicine be Administered?"

Instead of the old heading, "The Following are the Remedies, Solutions and Doses Employed by the Hypodermatic Method," we find simply "Formulæ." Under these we should have expected to see a formula for carbonate of ammonium so compounded as not to cause a blister; to have some mention here of the hypodermatic administration of ether, digitalis, antipyrine, and other substances.

True it is that an article on ether by the hypodermatic method is found under ether, p. 545; though strange to say, in the excellent treatment of digitalis we do not see any mention of its use hypodermatically.

The article on the injection into the veins of medicinal agents is rewritten, and instead of thinking it "advisable only in emergencies," the author now says that it is dangerous, or not, according to the character of the material used.

Under "Alimentation in Diseases" we find a new article on Forced Alimentation by Debove's Method.

On page 141 the author withdraws the statement that "whenever epilepsy occurs in weak and anæmic subjects iron is indicated," and substitutes "It has been much used in the epilepsy of weak and anæmic subjects, but it seems to the author to be more hurtful than beneficial, as a rule, yet he has seen excellent results from a combination of bromide of iron and bromide of potassium in such cases." But it would take too long to continue to specialize. There are, to be more general, new articles wherever the advances with the subject since the last edition could seem to require them; and as an illustration of this we see marked additions to all articles in medicines used for antiseptic purposes, particularly iodoform, mercury, etc. Among the drugs added are, oleum erigerontis, iodol, canella, pyrogallic acid, ozone, trichlorphenol, salol, antipyrine, naphthalin, naphthol, pyridin, (and pyridine tricarboxylic acid,) saccharin, acetanilide (antifebrin), strophan*tus*, sparteine, adonidin, methylal, chloride of methyl, urethran, hypnone, felbovis, cascara sagrada, terebinthene, terpine, terpinol, terebine, jequirity, and last, much to our surprise, in view of the unsettled condition, in which the drug rests—stenocarpine, now called gleditschine. Unquestionably the new addition is a great improvement on the old one; and even if nothing were added but a summary statement about the new remedies in use since the last edition, the book would be desirable.

FUNCTIONAL NERVOUS DISEASES, THEIR CAUSES AND THEIR TREATMENT. Memoir for the concourse of 1881–1883. Académie Royale de Medicine de Belgique, with a Supplement of the Anomalies of Refraction and Accommodation of the Eye and of the Ocular Muscles. By George T. Stevens, M.D., Ph.D., Member of the American Medical Association, of the American Ophthalmological Society; Professor of Ophthalmology and Physiology in the Albany Medical College.

In giving a title to this book it would have been well to state that special reference is had to functional nervous diseases as dependent upon irregularities in the refractive condition of the eye, and in its muscles. The introduction is chiefly concerned with an historical notice of those observers who have described the train of symptoms which now are recognized as being dependent upon asthenopia. The status of our knowledge at present has been arrived at chiefly by the discovery of the ophthalmoscope by Helmholz, and of hypermatropsia by Douders.

"While Graefe recognized headache as one of the occasional symptoms of asthenopia, he did not suggest that persons subject to chronic cephalalgia should consult an oculist."

It seems that to the author the credit is due of having first made "mention of the principle that irritations arising from ocular adjustments may act as reflex causes, inducing nervous troubles in distant parts."

While the "modifying tendencies" of surrounding circumstances, and so-called inherited neurasthenic predisposition is kept in view as the possible cause of many functional nervous diseases, the possibility of this being caused by irregularities in the refraction of the eye, and in its muscular action, should not be disregarded; in fact, they more frequently than other conditions constitute a neuropathic tendency.

The treatment of such conditions should be first the detection and then the removal of their cause.

Headaches or cephalalgia, migraine or sick-headache, neuralgia, spinal irritation and neurasthenia, chorea, epilepsy and mental disorders are discussed in order, as being caused by irregularities in the ocular functions.

Heredity, as a cause for these conditions, is regarded as an inheritance of anatomical defects. One family is characterized by hypermetropia as a defect; another by astigmatism; yet another by lack of muscle equilibrium. All members of the same family are not affected alike; one has chorea, another epilepsy, another migraine, etc.

In the author's opinion physiognomy may give reasonable suspicions of the existing error—a broad, flat face suggests hypermetropia; a narrow, prominent face, myopia; asymmetry in the bony elements of the face, astigmatism.

In the discussion of each condition, statistics are given. From these it can be seen that good has been obtained, in a great majority of cases, by correction of ocular irregularities. Medication has properly been excluded in treating these cases.

The "table," commencing on p. 139, and the "summary of the above table," is worthy of the utmost consideration, and will command the attention of every calm thinker.

The supplement gives an elementary treatise on myopia, hypermetropia, astigmatism and presbyopia with their correction. This department of the book is of peculiar interest to the ophthalmologists in that there is discussed in it the subject of hyperphoria.

This is defined as "that condition in which, with the ability to maintain binocular vision, there is a tending of one visual line in a direction above that of the other." The author is undoubtedly the first to call attention to this condition. The introduction of *this* term is therefore warranted.

For insufficiency of the external recti the term "esophoria" is proposed; for insufficiency of the internal recti, the term "exophoria" is proposed.

"Orthophoria" is described as a tending of the visual lines in parallelism; "heterophoria," a general term, signifies a tending of the visual lines in some other way; under this latter heading are grouped esophoria, exophoria and hyperphoria.

The wisdom of this multiplication of terms is debatable.

There is perhaps room for a more accurate study of hyperphoria, in so far as it concerns the detection of the over-tense muscle, which causes the difference in the place of the visual lines. It is to be regretted that the "many new views and experiences," to which the author refers in his preface, have not been incorporated in this volume. It is to be hoped that they will appear in a later edition.

The operative measures, so far as the method of procedure is concerned, are clearly described.

In conclusion it can be said that the book as a whole is clearly written, and will commend itself to any one who is willing to step aside from the beaten pathways to seek causes for seemingly inexplicable facts.

A COMPLETE HAND-BOOK OF TREATMENT. Arranged as an Alphabetical Index of Diseases to Facilitate Reference, and Containing Nearly one Thousand Formulæ. By William Aitken, M.D., (Edin.), F.R.S. Edited with Notes and Additions by A. D. Rockwell, A.M., M.D. New York: E. B. Treat, 771 Broadway, 1887.

We are told in the preface that " it is composed of the chapters on Treatment taken from the seventh edition of Dr. Aitken's " Encyclopædic work on the Science and Practice of Medicine." The title is a sufficient explanation of the plan of the work, although we find in addition to the treatment, definitions—so-called, more accurately brief descriptive sentences—of diseases. There is, doubtless, something of value in the idea of presenting to practitioners a book on a plan similar to this ; but the reader will be surprised to find—even when he was sure that treatment was all in which he desired information—how many points arise which demand more than a book with such a scope can afford ; besides, the plan ignores the fact that, if so disposed, reference can be made about as quickly to the " practice " in any regular work on the subject. As to the treatment as here detailed, we cannot fail to note, first of all, that it is thoroughly English—drugs, formulæ and authorities. The author and editor have almost succeeded in entirely ignoring American medicine, not to say European. There are some admirable articles, among which we may cite those on bronchitis, laryngitis, the treatment of larynx and pharynx by atomized fluids, and particularly those on rheumatism. We are, however, surprised to see no mention of intubation of the larynx, a fact which, taken with the absence or only occasional reference to some of the lately discovered, but valuable drugs, would lead one to think the book not up to the present methods. Under treatment of angina pectoris, we see no mention of amyl nitrite. The treatment of enteric fever (of which it would not have been amiss to give some synonyms) is in the main satisfactory, though we should hardly like to rely solely on cold and digitalis for the reduction of temperature. The prophylactic treatment of puerperal fever is well enough stated, but the curative treatment is by no means satisfactory. Unquestionably many of the formulæ are excellent, and the book, as a whole, one that could be made useful.

ALDEN'S MANIFOLD CYCLOPEDIA OF KNOWLEDGE AND LANGUAGE.

One of the most extraordinary literary enterprises of the age is the work which bears the above title.

The specimen pages, which the publisher sends free to any applicant, show the type which is used—a good clear-faced brevier ; also the form—" Ideal " for convenience, easy for the eye, handy to hold. The volumes will average about 640 pages each, and there will probably be about thirty of them—the " manifold " number will not be inconvenient ; when you consult a Cyclopedia you are supposed to know what " title " you are looking for ; the lettering on the back of each volume tells you at a glance what titles will be found within, so you do not look in the wrong one—and the volumes are so "handy" you quickly turn to the sought-for page.

There will be several thousand illustrations—no "mere pictures," but everything of importance that will serve to illustrate.

The "Manifold Cyclopedia" is to be much more than a "Cyclopedia of Universal Knowledge;" it will embody also a Dictionary of the English Language--including every word which has any claim to a place in the language. How often you have consulted Appleton's or Chambers's, or Johnson's Cyclopedia and failed to find the title you were looking for—then consulted Webster's Unabridged and were successful; the word belonged to the Dictionary rather than to the Cyclopedia. Or you have consulted Webster, and found little more than a mere definition of the word—you must go to the Cyclopedia for details of knowledge. Or, more probable than either of the foregoing suppositions, you do not own either a first-class Cyclopedia or a first-class Dictionary, or only one of the two, because of their prohibitory cost, so you "consult your imagination" and "go hungry" for lack of the few lines of print that would satisfy you! In the "Manifold Cyclopedia" you will find a survey of all knowledge which is illustrated by the English Language—and its cost is within your reach—only 50 cents a volume for cloth binding, 65 cents for half morocco.

In this age of the world no general Cyclopedia or Dictionary can be in any proper sense "original"—each new compilation, if it has merit, is based upon the knowledge found embodied in all its predecessors. "Knowledge," as set forth in books, cannot be monopolized by "patent" or "copyright"—only the form of embodiment can be thus covered. The latest discoveries (or imaginings) of the scientists, the latest "finds" (or frauds) of the archæologists, the latest theories of the political economists—all are subject to the "sight drafts" of the latest Encyclopedist. "Alden's Manifold Cyclopedia" undertakes to combine in the most convenient and concise (and yet full) and economical form possible, the results of the scholarship of the world up to the time of its publication. Availing itself most of the labors of its predecessors who have accomplished the best results, the "Manifold Cyclopedia" draws more largely from Chambers's than from any other of the family of Cyclopedias, and more largely from Stormonth than from any other of the family of Dictionaries—the Chambers's is an acknowledged model for a Cyclopedia; but it is adapted particularly to England rather than to America; Stormonth is the acknowledged peer of Webster, Worcester, the Imperial, and Murray, as an authority, but without a peer in the combined qualities of conciseness, clearness, and accuracy of learning. No authorities, however, are blindly followed, but effort is carefully made to bring all matters to the generally accepted standard of the most eminent American, rather than foreign, scholarship.

Editorial talent second to none in America, in *experience* and *skill*, is engaged in the conduct of the work; the publisher's past experience in Cyclopedia making (notably in the Library of Universal Knowledge, now known—trebled in price—as the International Cyclopedia) is good basis for the pledge he makes to his patrons that the "Manifold" shall be inferior to no other Cyclopedia in any of the important qualities of a popular guide to Knowledge. Specimen pages free, or a specimen volume may be ordered and returned if not wanted. John B. Alden, Publisher, 393 Pearl St., New York.

SIX HUNDRED MEDICAL DON'TS; OR, THE PHYSICIAN'S UTILITY ENHANCED. By F. C. Valentine, M. D., New York. G. W. Dillingham, Publisher, New York.

An immense amount of ingenuity must have been required of the author in order to get together so many "Don'ts."

It cannot be wondered at if many of them are strained and some of them out of place. Dr. Valentine has done some good work in medical literature, and it is to be regretted that this last work of his should not be more worthy of his talents.

It may prove to be but the result of his natural desire for mental relaxation, and that he will soon give to the world and to medicine something more in accordance with his past work.

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PHARMACY AND THERAPEUTICS.

ANTIPYRETIC PILLS (B. FRANK HUMPHREYS, M.D., HAWKINS, TEXAS).—The occasional untoward effects of antifebrin, antipyrin, and the whole catalogue of "anti-quinine" rivals, and the alleged pathological changes which have been observed to follow their administration, have made many practitioners more cautious in the use of these new remedies, and more inclined to fall back upon the old and less dangerous methods. The following formulæ have been devised and used with satisfactory results by the writer before the more recent antipyretics came into general use. If some of the manufacturing pharmacists will include them in their formula lists, they will doubtless find ready sale for them, as few physicians or druggists are in a position to prepare them properly. Distant patrons, who are familiar with their use, send to me for my "fever pills," and manage most of their malarial sickness with success. No. 1 is especially adapted to general family use, meeting the indications in ordinary cases of malarial fever.

The other numbers, as a general rule, should be preceded by, or alternated with, calomel. The two or three grain sugar-coated pill, to the amount of six or ten grains, followed by a saline laxative, is the most efficient hepatic remedy.

These antipyretic pills, as the term indicates, are designed to reduce the fever, and may be given in any stage of the pyrexia. They act not only as an antipyretic, but at the same time prove to be our most reliable antiperiodic. The fever usually subsides, if of the periodic type, by the time the patient becomes thoroughly cinchonized, diaphoresis being established after a few doses, followed by a gradual decline of the temperature.

NO. 1.

℞

Quinine,	gr. ii;
Calomel,	gr. i;
Antim. et pot. tart.,	gr. ⅛;
Morphine sulph.,	gr. ⅛.

M. Fiat P. 1.

Sig.—One or two pills every two hours until the fever subsides, or until ten pills have been administered. Usually one pill every two hours is sufficient. In urgent cases one or two pills every hour may be required.

NO. 2.

℞

Quinine,	gr. ii;
Ipecac, pv.,	gr. ½;
Camphor, pv.,	gr. ½;
Gelsemine,	gr. ⅛.

M. Fiat P. 1.

Dose same as the preceding formula.

NO. 3.

℞

Quinine,	gr. ii;
Ipecac, pv.,	gr. ½;
Camphor. pv.,	gr. ½;
Pilocarpine,	gr. ⅛.

M. Fiat P. 1.

Dose same as first formula.

NO. 4.

℞

Quinine,	gr. ii;
Opium, pv.,	gr. ¼;
Ipecac, pv.,	gr. ½;
Ext. aconite,	gr. ⅛.

M. Fiat P. 1.

Dose same as first formula. The drugs should be strictly pure and accurately divided.

These pills are not designed to take the place of a physician's prescription, nor are they intended to be used throughout an attack of fever when other and special treatment is obtainable. They may be conveniently used at the onset of a malarial fever, or at any time during its progress, to establish diaphoresis and hasten the apyrexia, after which the treatment indicated may be prescribed.—*Therapeutic Gazette.*

POISONING FROM ANTIFEBRIN.—A correspondent of the *Therapeutic Gazette*, Dr. F. M. Bauer, reports that he has several times witnessed cyanosis produced in female patients by 3 or 4¼ grain doses of antifebrin. He has not seen it act so in men. The same journal quotes from the *Deutsche Medical Zeitung* a case reported by Dr. Goll as the only one to his knowledge before the profession of antifebrin poisoning. Unfortunately in the latter case the amount of the drug used is not clearly indicated.

"Mrs. D., who suffered from nervous headache, advised by an article in the *Berliner Lokalanzeiger*, purchased twenty-five pfennigs' (about six cents) worth of antifebrin, and put the entire quantity in two portions, which she drank in close succession.

"In about three hours vomiting began, and a cold sweat broke out all over the body, and the patient sank into a deep faint.

"Several hours subsequently I was called in, and found the face, ears, chest, hands and feet as cold as ice, and covered with a cold sweat; the abdomen was warm but moist; the face deathly pale; eyelids closed, but when spoken to she would open her eyes; pupils moderately dilated, and showing but little sensitiveness to the light; heart beating violently; respiration rapid; pain in abdomen; nausea with occasional retching, but no vomiting.

"The nervous system was in a most strange condition, for although the woman lay perfectly unconscious of her surroundings, yet she was able to answer to all my questions promptly and sensibly, although in a weak voice.

"She said she felt as though she were continually falling and that she felt perfectly numb.

"In the morning, after the continued use of strong excitants during the night, consciousness returned, accompanied by a most profuse perspiration. At nine o'clock the temperature was normal; the pulse was still up to 108. The whole abdomen was painful and sore. Strange to say, the patient remembered nothing of her condition the night before, and did not even recall the presence of the doctor. This seems to show that antifebrin produces an effect on the nerves similar to an hypnotic state, in which the patient can be made to answer questions and obey commands without having any self-consciousness.

"The next day the patient showed a marked loss of appetite; the face was flushed, and she complained of a severe headache. The symptoms of the poisoning had disappeared."

DR. J. G. TAPPER writes to the *Medical Record* thus, in reference to the germicide properties of iodoform. While in Stockholm, Sweden, my attention was directed to a review in the *Record*, of the investigations made by Messrs. Heyn and Roving, of Copenhagen, Denmark, concerning the germicide properties of iodoform. These reports being negative, I reached that city prepared to see what has been an indispensable agent in the hands of nearly every surgeon thrown aside as utterly worthless. Yet, after a month's study of the many excellent methods employed in the hospitals of Copenhagen, I am prepared to say that nowhere have I seen such a free and unreserved use of iodoform.

Kommune Hospital, of eight hundred and twenty beds, with two large surgical wards, does not confirm the results obtained in laboratory by these two gentlemen. On the contrary, Professor Axel Iverson, in charge of one of the wards, has become so strong an advocate of its use, that iodoform gauze has taken the place of nearly every other form of drainage. One rarely sees the bone or rubber drainage tube in his service. He was especially prominent in its favor, and declared clinical experience in this case, at least, as vastly superior to experiments with gelatine. Professor Studegard employs it less frequently, simply because of its disagreeable odor. Professor Howitz, with his large gynecological experience in the Sisters' Hospital, and the female ward of Fredericksberg Hospital, employs it in nearly all of his surgical operations, and only with the best results. Since he began inserting an iodoform pencil into the cervical canal, in all—twelve if I remember correctly—his hysterectomies, he has not had a single death. This he attributes solely to the use of iodoform, as he has in no way modified his operation. In so far as I could learn, not one of the hospitals had laid it aside, but are encouraged to continue its use. Whatever new light the future may reveal by further inquiries, certain it is that not one in a position to speak supports in any way the published report; and I am sure this is done in no spirit of opposition to any recently discovered truth, for though Denmark be small, it harbors no narrow or contracted ideas. They are keenly alive to accept anything new, if they do not even anticipate it.

MEDICAL NEWS AND NOTES.

DR. JOHN A. PACKARD in a recent clinical lecture on hernia lays stress upon two points, which he says are not mentioned in the textbooks. 1. In a case of inguinal hernia, after trying taxis for some time without avail, he directed an assistant to press upon the abdomen a little above the ring so as to press back the intestines from the ring, and then the efforts at taxis were successful. 2. There are sometimes folds in the serous membrane of the sac, which, when the knuckle of intestine is pressed against them close together like valves, thus preventing the return of the bowel.

MR. W. GEM, of the City of London Infirmary, reports four cases of retention of urine preceding apoplectic attacks. The duration of the retention varying between four and ten days.

A CORRESPONDENT writing to the London *Lancet* states that on October 6th he sent a child to the Fever Hospital suffering from scarlatina, the symptoms being well marked. The patient recovered and was discharged cured. On November 6th he was called to see the same patient, whom he found suffering from a second attack.

MAN upon this earth would be vanity and hollowness, dust and ashes, vapor and a bubble, were it not that he feels himself so.—*Jean Paul Richter.*

A SOUND discretion is not so much indicated by never making a mistake as by never repeating it.—*Bovee.*

OUR DARWINIAN BROTHERS.—Dr. Jammes, in a memoir sent to the Academie des Sciences, states that monkeys, unlike other animals, unless it is the human animal, readily acquire the habit of taking morphia. When monkeys live with opium smokers, as they do in Eastern countries, where the habit is more prevalent than elsewhere, and become accustomed to the medicated atmosphere, they acquire a taste for the pipe. One particular monkey, it is said, would wait for his master to lay down his pipe, and would then take it up and smoke what remained. If not allowed to do so for several days it would fall into a state of depression and inactivity, which would disappear as soon as it was allowed to "hit the pipe."—*Pall Mall Gazette.*

THE CONTROL OF HÆMORRHAGE.—Von Nussbaum finds peroxide of hydrogen of great value in controlling hæmorrhage from the parenchyma of various organs, as well as from comparatively inaccessible vessels. The application is made with a pledget of cotton soaked in the peroxide.

PHTHISIS AND CONTAGION.—In an article in *La Clinique* on the "Contagiosity of Tuberculosis," by MM. Destrée and Slosse, it is stated that from inquiries and observations made in Dr. Desmeth's wards during the present year it was found that, of fifty patients suffering from tuberculosis, contagion could be regarded as an undoubted etiological factor in twelve, heredity in thirty; no cause could be traced in the remaining eight. The two factors, the authors say, are frequently present, and it is difficult to determine to which of them the preponderating influence is to be ascribed.

BETTER WAIT AWHILE.—Patient.—"What would you think of a warmer climate for me, doctor?"

"Good Lord, man, that's just what I'm trying to save you from.—*Medical Era.*

THE LONDON "COLLEGE OF STATE MEDICINE."—An institution has just been founded in London under the title of "The College of State Medicine." Its objects are the advancement of sanitary science. The acceptance by Sir Joseph Fayrer of the office of President is almost in itself a guarantee of success.

TALENT AND GENIUS.—In his address of welcome to the Fellows of the American Gynecological Society, Dr. Fordyce Barker said:

"I remember to have somewhere met this terse distinction between Talent and Genius: 'To do easily what others do with difficulty, that is talent. To do what Talent cannot do, that is Genius.'"

SKIN GRAFTING.—Corneil and Ranvier, in their "Histologie Pathologique, state that "The presence of epidermic cells, transplanted to the middle of a granulating sore of the skin, determines an active reproduction of epithelium all about the graft. The epidermic cells seem to act not by multiplying themselves but by a kind of *action de présence* which leads, as it were, the evolution of the surrounding embryonic cells in a definite direction; for the graft itself gives no evidence of activity, and is soon destroyed in midst of the new epithelial tissue, the appearance of which it has determined."

THE VENTILATION OF SLEEPING ROOMS.—Dr. Brown-Séquard, who has been preaching that bad ventilation of sleeping rooms and poor and monotonous food are great causes of phthisis, discussed the subject at the last meeting of the Academy of Sciences, Paris, taking many of his examples from England. Wherever population is dense and sleeping rooms ill-aired or overcrowded, consumption prevails. A room in which a consumptive person sleeps is reeking with contagion if the air he exhales is not carried off. Dr. Brown-Séquard exhibited an apparatus of his invention. A reversed funnel the shape of a lamp shade is placed at the end of a tube, so arranged that, when it is placed beside the bed, the reversed funnel will be above the sleeper, and draw up the air he breathes. The other end runs into the chimney of the room. If there is none, it is taken through a heating apparatus to an air-hole. In either case the contagium is destroyed by heat, and after the manner suggested a few years ago by Dr. Burdon Sanderson and others.—*Lancet.*

DR. JAMES E. REEVES, of Wheeling, W. Va., is about to remove to Chattanooga, Tenn. His extensive knowledge of pathology and practical study of microscopical anatomy, render him specially fitted for the treatment of renal and pulmonary diseases. These he will make his specialty, and he will not engage in general practice.

THE BABIES' HOSPITAL.—During the months of June, July, and August of this year 4,119 children, under the age of one year, died in New York City. The Babies' Hospital, which has just been established at Forty-fifth Street and Lexington Avenue, under the patronage and direction of some of New York's best citizens, is intended to remove this infant mortality if possible. In general hospitals it is almost impossible to give to sick babies the care they require; and out of the thousands of beds in the New York hospitals only twenty-seven are devoted to babies. The managers of the institution believe that it will be comparatively easy to check spinal, hip, and eye affections in young children if the right measures are taken in time, thus saving untold misery to hundreds of unfortunate people.

IN California and in Louisiana irregular physicians are not allowed to give death certificates. How is it in other States?

AT the recent session of the American Public Health Association Dr. Sternberg recommended the establishment of a Bureau of Public Health, in lieu of a National Board of Health, the prospect of which seems to have left the range of probabilities.

THE management of the Louisiana State Board of Health was most highly praised in Memphis at the recent meeting of the American Public Health Association. Dr. Joseph Holt, the President of the Board, has so improved the quarantine system of New Orleans as t excite universal approval and admiration.

MESSRS. SCHILLING, STOLLWEICK & CO., No. 5 Worth Street, New York, have prepared for the profession a very delicate article of cocoa. It is as free from oil as it is possible for cocoa to be, and the desired effect has been produced by hydraulic pressure, instead of by alkaloids as is usually the case. As alkaloids form a soap when entering into connection with oils, such cocoas cannot therefore be called strictly pure, for no amount of mechanical cleaning will be sufficient to remove all the soap. To prevent mistakes in measuring the dose, enough of the powdered cocoa is put up into a small, heart-shaped confection, and each one of these is just enough for one cup. A more delicate and nourishing article of diet for an invalid could not easily be found.

A PATHO-BIOLOGICAL LABORATORY has been added to the State University of Nebraska. A class will be formed for pathological researches into the nature and causes of the contagious and infectious diseases of animals.

These advantages are offered to veterinary surgeons and stock men upon the payment of $100. This may develop into a great and useful enterprise, but as the laboratory can only accommodate two students at one time, it may at present be classed among the " beneficent germs " about which the great Semmola gave such encouraging accounts when he was in the country.

RUSSIA spends twenty-five per cent. more for the preservation of public health than for public education. " Public health is public wealth " is her motto.

STRICTURE IN THE NEGRO.—Dr. W. Page McIntosh, of New Orleans, regards stricture of gonorrhœal origin as comparatively rare in full-blooded negroes, though traumatic stricture is frequently met. He says gonorrhœa in negroes is very easily controlled.

ACCOUCHMENT DURING HYPNOTIC SLEEP.—Carl Braun recently attended a woman (*Wiener Medicinische Wochenschrift*) in whom the uterine contractions were particularly painful and who was hypnotized by the accoucher to relieve her suffering. After she was rendered unconscious the uterine contractions were equally violent, but the intervals somewhat longer. Dilatation of the passages occurred in the most satisfactory manner, and delivery was speedily accomplished. The placenta was expelled into the vagina in the usual time and easily withdrawn. The patient upon awakening complained of no pain and soon fell into a gentle slumber of several hours' duration. There was no unusual hæmorrhage. Possibly the most interesting feature was that the uterine contractions induced contractions of the muscles of the abdomen without awakening the patient.—*Kansas City Medical Index.*

AN APT ILLUSTRATION.—Mr. Huxley, who has contributed so much to the popularization of modern theories of biology, has very aptly compared the human body to an army:—

"Of this army, each cell is a soldier; each organ, a brigade; the central nervous system, head-quarters and field telegraph; the alimentary and circulatory system, the commissariat. Losses are made good by recruits born in the camp; and the life of the individual is a campaign, conducted successfully for a number of years, but with certain defeat in the long run."

DR. WILLIAM T. LUSK has recently performed another successful Cæsarian section, by the modified Sänger method, at Bellevue Hospital, the second since the beginning of the autumn. The infant unfortunately died of tetanus, but at last accounts the mother was doing admirably.

A CONGRESS of physicians and veterinaries having for its object the scientific study of tuberculosis in man and in the other animals, will meet at Paris in July, 1888, under the presidency of Chauveau.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—The profession will learn with pleasure that a meeting for the permanent organization of the Southern Surgical and Gynecological Association was held in Birmingham, Alabama, on the 12th of October, pursuant to a call by the Alabama Surgical and Gynecological Association. Prompted by the many urgent requests of the most prominent physicians in the South, the Alabama Association decided to extend its membership so as to include all the Southern States.

The following officers were elected:

Dr. W. D. Haggard, of Nashville, Tenn., President; Drs. R. D. Webb and J. W. Sears, both of Birmingham, First and Second Vice-Presidents, respectively; Dr. W. E. B. Davis, of Birmingham, Secretary; and Dr. H. P. Cochrane, of Birmingham, Treasurer.

The Judicial Council consists of the following:

Dr. Jno. S. Cain, Nashville, Tenn.; Dr. Hunter McGuire, Richmond, Va.; Dr. J. M. Taylor, Corinth, Miss.; Dr. DeSaussure Ford, Augusta, Ga.; Dr. R. A. Kinloch, Charleston, S. C.

Dr. W. F. Hyer, of Holly Springs, Miss., was elected orator for the next annual session, which will be held in Birmingham.

It is hoped that the valuable work done in this association will be promptly reported to this Journal.

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EDITORIALS.

PUERPERAL FEVER.—The subject of puerperal fever, or, as we would prefer to call it, of puerperal septic infection, may be considered as still one of the burning questions of the day; and in proof of this assertion it is only necessary to refer to the number and character of the papers read before the Section of Obstetrics of the Ninth International Congress on this theme, and more recently to the discussion on "the Nature and Treatment of Puerperal Fever" at the last meeting of the British Medical Association, in which Playfair, Barnes, Routh, Atthill, and others participated. And here we would remark that it is painful to observe that such men as Barnes, Routh and More Madden in this discussion advocated views which should be buried in oblivion as inconsistent with the facts which modern science has demonstrated—we mean such views as the potency of atmospheric influences, miasmata and mental emotions in evoking puerperal fever. The reader will doubtless recall the discussion which followed Dr. Thomas' excellent paper on puerperal fever, read before the Academy of Medicine December 6, 1883, when similar untenable ground was assumed by some of the speakers. It is a sufficient refutation of those views that in well-managed lying-in hospitals puerperal septic infection is now rarely seen, and further, that the diminished mortality is in direct proportion to the strictness with which antiseptic precautions are observed. The space at our command, however, does not allow us to dwell upon the proofs, which have accumulated more and more, of the truth of the doctrine, which Semmelweiss demonstrated, with such convincing logic, that puerperal fever was due to the "absorption of decomposed animal organic matter." Assuming, then, that it is true that puerperal fever is a morbid condition of the puerperal woman due to septic infection, the starting point of which is a puerperal wound, we would fain dwell awhile upon the mechanism of the infection, because we are impressed with the conviction that the views of many members of the medical profession are, just here, rather hazy, and it must be admitted that all rational prophylaxis and therapeutics must be based upon a clear understanding of *how* infection is produced. For the occurrence of an infection afresh wound is a necessary postulate. And such wounds are found in every primipara, and in the vast majority of multiparæ, in the form of lacerations of the cervix and tears in the vagina or vulva. Also, it must be borne in mind that the entire inner surface of the uterus, whose protecting internal epithelial covering is detached with the ovum, presents a favorable condition for the absorption of septic matters. We know now that if a wound be maintained in an aseptic condition, which is equivalent to saying that if it be protected from the invasion of micro-organisms, it heals quickly and certainly without inflammatory symptoms, and with no general reaction. If, on the contrary, micro-organisms obtain access to the wound, a disturbance takes place in the process of healing, and, as a consequence, suppuration may be caused, or there may be a decomposition of the secretions, nay, the wound may become the seat of gangrene, diphtheria, or erysipelas, and, as a further consequence lymphangitis, pyæmia, or general septic infection may be induced. The active agents in evoking putrefaction are the bacilli which, when they attain to a wound, give rise to decomposition of its secretions. The pathogenic micrococci possess the power of penetrating from a wound into the living tissues, producing necroses in them and invading remote organs through the medium of the blood and lymphatic vessels, and developing similar processes in them. Morever, through the agency of these micro-organisms chemical combinations are formed out of the normal constituents of the tissues known as ptomaines—purely chemically acting poisons—which produce a toxic effect on the system at large. The clinical phenomena observed in a case of septic infection of a wound consist, then, in local morbid processes on the one hand, and septic intoxication on the other. In a puerperal woman who is infected by septic matter may be observed all these disturbances in the healing process of a wound, just mentioned, in the most exquisite degree. The most dangerous forms of infection occur when pathogenic micrococci are innoculated into a wound of the genital tract by fingers or instruments. This being true, the necessary corrollary must be that, provided fingers and instruments are asceptic, this form of septic infection is an impossibility. But in addition to this form of infection, there is another in which the infecting agent is not of a pathogenic character This has received the name of autogenetic septicæmia, or self-infection. These terms are misleading, and tend to false methods of practice. A self-infection, in the proper signification of the term, is just as impossible as a spontaneous sepsis, since the putrefactive micro-organisms, just as the pathogenic micrococci, never originate in the organism. To the cases of autogenetic septicæmia correspond those in which ubiquitous putrefactive bacteria have produced decomposition in the secretions of the genital tract during birth, or in the puerperal condition with absorption of the products of decomposition. Therefore, it is all-important that just as the surgeon sterilizes his field of operations before operating, so should obstetricians cleanse the vulva and surrounding parts first with soap and water, and afterwards with a solution of mercuric chloride before making an examination. In the cases in which products of putrefactive decomposition have been developed in the genital canal during child-birth, the entire genital canal must be thoroughly disinfected immediately after the act of parturition.

CHOLECYSTO-INTESTINAL FISTULA FOR THE RELIEF OF OCCLUSION OF THE COMMON BILE DUCT.—A notice of a successful case of cholecystenterostomy, by Kappeler, in the *Medical Record* of November 12th, gives an erroneous impression of his proceeding, in stating that "the operation consists of emptying the gall-bladder and stitching an opening in its walls, directly to a corresponding slit in the duodenum."

Upon examining the original report, it is found that he distinctly states his inability to reach the duodenum, and that he availed himself of a coil of the small intestine, into which an incision was made, to which he sutured the incision primarily made through the walls of the gall-bladder, after its contents were evacuated by a trocar.

This modification of Winiwarten's operation by completing the union at once, instead of adopting his primary and secondary steps, should be accepted as a satisfactory solution of the problem, restoring the bile to the alimentary canal in cases of occlusion of the common bile duct; and no one can doubt henceforth the practicability of this surgical procedure. Notwithstanding Kappeler's impression of the danger of uniting the gall-bladder and duodenum, the question whether the communication should be made with the small intestine below the duodenum, or with the walls of the duodenum, as suggested by Dr. J. McF. Gaston, of Atlanta, Ga., remains subjudice.

In view of the advantages likely to be gained by conveying the bile into the alimentary canal, near the point of its normal entrance, through the ductus choledochus, and the proximity of this portion of the duodenum to the gall-bladder, it seems proper to bring to the attention of surgery the following points presented in the various publications of Dr. Gaston, touching this measure of cholecysto-intestinal fistula:

In his original article on obstruction of the gall-duct, which appeared in this JOURNAL October, 1884, Gaston states that "it is proper. under some circumstances, to evacuate the distended gall-bladder externally, with a view to establish subsequently a firm communication from it to the intestinal canal, which is requisite for a successful result of the operation. Having made an incision into the peritoneal cavity, over the most prominent part of the distension, a digital or ocular examination may enable the operator to determine upon the propriety of opening the sac." (p. 379.) "A finger may be introduced, and bring the surface of the alimentary canal below the insertion of the duct in contact with a portion of the wall of the sac, so that a needle with an elastic ligature may be passed through the tissues of both, having their adjoining surfaces united closely in the loop which constricts the inclosed walls until they are cut through, so as to leave a communication between the two, such as has been observed in the ulcerated opening of the gall-bladder into the upper portion of the small intestine." (p. 380.)

"On the 20th of August, 1884, a puppy of three or four months was operated on, under the influence of ether, by making an incision of two and a half inches, and passing a silk ligature through a very small portion of the walls of the gall-bladder and duodenum, by which they were secured in close contact." (p. 381.)

"On the 28th the subject of this experiment was found to be apparently free from all trouble, and exploration revealed union of the gall-bladder and duodenum, and no doubt existed of the exit by opening between the gall-bladder and the duodenum, as the small size of the gall-bladder indicated that it was kept drained." (p. 383.)

In an article entitled, "Duodeno-Cholecystotomy," contributed by Dr. Gaston to the second volume of the "Reference Handbook of the Medical Sciences," he says: "My conviction became fixed, in the course of the year 1881, that surgical means should be adopted with a view to an artificial opening between the gall-bladder and the duodenum, or the adjacent portion of the small intestine, and my article substantially as published, with exception of the experiments on dogs, was sent to GAILLARD'S JOURNAL. The proximity of the duodenum to the under surface of the gall-bladder presents favorable conditions when there is distention of the gall-bladder with more or less thickening of its walls, in cases of obstruction of the common duct in the human subject. There are three features in this operative measure which are essential to a successful issue: The firm union of the exterior surfaces of the walls that are brought in contact; a firm opening through both structures by which their cavities are in communication; the removal of the suture after cutting its way, by a spontaneous passage into the intestinal canal. So far as our experiments upon the dog are capable of illustrating what might be expected in the human being, we have every reason to expect a favorable result." (p. 540.) Six dogs were used in this first series of experiments.

"The fatality attending the ligature of the common bile-duct before another outlet for the accumulation of bile was effected, induced me to undertake three experiments for effecting an immediate communication between the gall-bladder and duodenum. With proper precautions in running a larger suture from the duodenal wall, so as to make allowance for its contractility, and a secure union of its margin with that of the opening in the sac, this operation ought to succeed." (p. 543.)

Another series of experiments on fifteen dogs, published in the *Atlantic Medical and Surgical Journal* for the months of September and November, 1885, illustrated this cholecysto-duodenal outlet for the bile in obstruction of the common duct, and "the results of attachment of the gall-bladder to the duodenum by a single loop of white silk thread, are their intimate and firm union, by adhesive inflammation between their serous surfaces, and the formation of a fistulous opening through this septum, which affords a communication between their cavities."

The investigations of Golgi, reported June 12, 1886, in the *Centralblatt für Chirurgie*, as to the establishment of a union between the gall-bladder and duodenum, in obstruction of the common bile duct, are referred to by Dr. Gaston in his paper laid before the British Medical Association at Brighton. His experiments proved the practicability of attaching the gall-bladder and duodenum, by suturing an orifice in each, so as to secure the mucus and sewn membranes in opposition, and the operation led to no trouble either in the gall-bladder or duodenum, thus confirming Gaston's claim.

In the same paper, republished in this JOURNAL, on the practicability of establishing an artificial fistulous opening in the human subject between the gall-bladder and duodenum, Dr. Gaston remarks as follows:

"In case of an incision into the sac for the removal of its solid contents, this may be closed by Lembert's suture, separate from the loop of attachment, or may be secured to a corresponding incision in the duodenum, dispensing thus with the loop for effecting a communication."

When speaking of Huley's suggestion as compared with his own, it is stated that "Some other process may, however, be found profitable to others, and it rests with surgeons to adopt that which proves best. My experiments on dogs were undertaken to verify a predetermined method of making an opening from the gall-bladder into the duodenum, and it only remains to test its applicability to men for this operation to be adopted."

Such are the facts for consideration by those who may encounter cases of occlusion of the common bile duct requiring an operation.

THE SAD DEATH OF CARL SCHROEDER, the distinguished obstetrician and gynæcologist, which occurred last February in Berlin, was felt as a great misfortune to medical science, not only in Germany but throughout the world. The cause of his death has awakened much interest, and, therefore, our readers may desire to know the result of the autopsy made by his friend, Dr. R. Virchow, and communicated to the Berlin Medical Society, February 9th, 1887. The cause of death he found due to an old, already encapsulated abscess of the brain about the size of a walnut, which extended from the posterior part of the right fornix above into the white substance of the roof of the ventricle, and which had broken into the right lateral ventricle and had produced an acute fibrinous, purulent inflammation of this ventricle. Near the right lung between the root and the base was found a rather long, hard swelling adherent on all sides, which on section proved to be a body consisting, chiefly, of white fibrous tissue like cartilage, which contained in its middle a round cavity, covered with pus, of the size of a small nut. This communicated with the œsophagus by a narrow canal running downwards. Within this indurated mass, farther downwards, were situated several other foci, especially a rather large one, which had a peculiar mottled yellowish-brown appearance, and resembled the intermediary layer of the supra-renal capsule. On microscopic examination there was found in them extensive accumulations of pigment, and quantities of crystalline cholestearin. In other respects the lungs were healthy. There was no criterion by which to interpret the brain abscess nor its duration. A number of conjectures were made which rested, in part, on the fact that Schroeder himself, when he had a severe attack of illness five or six years ago, believed that an infection had taken place by contact of noxious matter with his conjunctiva bulbi, and that it had caused his pneumonia. His colleague, Dr. Schweigger did not share this view, but considered it as a simple conjunctivitis. It is thence scarcely permissible to construct a connection of the abscess with the conjunctivitis. Also the thought that was suggested at that time that his lung affection was determined by a secondary extension of that infectious matter must now be rejected. But whether the manifestly very old focus at the mediastinum already existed at that time, and whether it was the starting point for wide-reaching disturbances, is possible, but are questions which will be difficult to establish.

WE CANNOT COMMEND TOO HIGHLY the candor and manliness which Dr. Walton has shown in publishing his unsuccessful case of ovariotomy (IVth Original Article in this Number), and we are in hearty accord with him in his views as to the value of a record of many of such unsuccessful cases. The chief value of these narratives is believed to be in the critical analysis to which they should be subjected, so that we may find wherein we blundered, in the event that any mistake has been made. We would therefore point out, with Dr. Walton's permission, several errors in his methods, to which we are inclined to attribute his want of success. In the first place, it is a matter of imperative necessity that as few assistants and as few instruments as possible be used. On this point the best operators in the world are in accord. For example, Dr. J. Greig Smith, in his recent work on abdominal surgery, insists that besides the assistant who administers ether, the surgeon needs but one other assistant, with a nurse to hand sponges, &c. *Secondly*, We think the doctor should have separated the adhesions, tying the dense ones; then drawn out the tumor through the abdominal wound. And, after this was accomplished, secured the pedicle. *Thirdly*, We think, from the description given, that the doctor failed to cross his threads before tying, after he carried his needle through the pedicle armed with a double ligature; and hence the hæmorrhage. *Fourthly*, We think it would have been better not to have used the drainage tube. The cause of death was doubtless septicæmia. The time of year, we do not believe, had anything to do with the cause of death.

THE CASE OF THE GERMAN CROWN PRINCE.—Since the announcement was made that the German Crown Prince was suffering from an intralaryngeal neoplasm, the world at large has hung upon all news of the distinguished patient, whether coming through the columns of medical journals or those of the daily press. It seems that the growth snipped off by Sir Morell McKenzie, and submitted to the great Virchow for microscopic examination, was found to be a papilloma. On the force of this examination Sir Morell McKenzie seems to have compromised himself with reference to a favorable prognosis. Inflammatory reaction occurring lately, and repeatedly, seemed to arouse suspicions in the mind of many of the wisdom of Sir Morell McKenzie's prognosis. He has been rather harshly criticized by the Germans for his hasty prognosis. Virchow states that he himself is to be responsible for the diagnosis only so far as his microscopic examination goes, and that he has never held a personal consultation with McKenzie.

Every one who has read Virchow's article on "Pachydermic Larynges" cannot fail to be aware that the distinguished pathologist declared that the growth was benign.

Under the circumstances, McKenzie can hardly be censured for his prognosis; nor is Virchow to be held responsible, except in so far as his examination of the tumor presented to him goes.

What has been demonstrated, as has been pertinently remarked by a contemporary, is that *pachydermia laryngis* does not preclude the possibility of the co-existence of *carcinoma laryngis*.

Subsequent clinical observation showed that lower down in the larynx a new growth appeared; the appearance of this growth, and repeated localized and general inflammations in the mucous membrane and perichondrium of the interior of the larynx, together with some swelling of the glands in the neck, seemed to warrant a reasonable suspicion of malignancy. At this time the inflammatory reaction has subsided and it is stated by McKenzie that a good view can be had of the whole interior of the larynx, and that the swelling of the glands has diminished. A recent issue of the London *Lancet* says: "Sir Morell McKenzie considers that in view of the fact that there has been no actual microscropic proof of cancer, the diminution in the size of the swellings (*in the neck*) is not without a certain degree of clinical importance."

The general impression exists that the second growth is malignant. We do not believe that it is possible at this time to draw a conclusion with accuracy. One great precept at least has been taught by this illustrious case and that is, that conclusion should not be based upon the results given by the microscope alone, nor obtained by clinical experience alone, but that each has its value.

The distinguished patient is at present taking the salubrious air of San Remo, is cheerful, and bears his misfortune with the philosophic patience of his race.

THE HOSPITAL FOR THE RUPTURED AND CRIPPLED.—This institution was founded by Dr. James Knight, under whose management it remained for a long series of years. Since his death Dr. V. P. Gibney has been appointed Surgeon-in-chief. Dr. Gibney has already given thirteen years of patient and intelligent service to this work, and now accepts the arduous duties of Surgeon-in-Chief. Dr. Gibney's work has eminently been characterized by method and accuracy, and the Board of Management are to be congratulated upon their just and happy choice. It will be remembered that Dr. Knight was an ardent advocate of conservative surgery, and that his principles of treatment were carried out in the Hospital.

The treatment will still be conservative, but the attempt will be made to give better protection to the joints by means of a better form of apparatus. It will be interesting for the profession to know that such a thing as a portable hip splint was never allowed in the Hospital among in-door and out-door patients during the late administration. At present, protection is being given to this joint as well as other joints. Plaster of Paris, which has been so much condemned at the Hospital, is being used now with some discretion, and already the good effects are being noted. Take, for instance, a tubercular knee in a child whose health is exceedingly poor by reason of prolonged discharge; under the use of chloroform, a little manual force, the use of bistoury and Volkman's spoon, followed by antiseptic irrigation, and a plaster of Paris bandage, results that are quite remarkable are obtained within less than a week. Already the out-door department has been removed from a dark and wretchedly ventilated basement to the main floor of the building, and the work is done now by sunlight rather than gaslight. The Dispensary hours are to be changed from the inconvenient hour of 9 o'clock in the morning to 1 o'clock in the afternoon; this gives much more time to the in-door patients, and it is believed that this change is a very desirable one. The President of the Board of Managers is a very active worker in this field, and he brings to bear an extraordinary amount of executive ability. The general hygiene of the patients, which Dr. Knight laid so much stress upon, is still to be a prominent feature of the Hospital. It is believed that if joints and bones can be protected by a proper apparatus there will be little occasion for operative procedures. It should be remembered that, when the Hospital was founded by Dr. Knight, orthopedic surgery was in its infancy, that the profession frowned upon the enterprise, and did all that a frowning profession could do to thwart the good work which Dr. Knight with his indomitable zeal pushed forward to its conclusion. The illustrious founder of this Hospital had one idea, and he followed that without wavering. Those who criticize are usually Iconoclasts, and the world seldom derives any good from their labors. In conversation with the present Surgeon-in-chief at the Hospital, the writer was impressed with his desire that all credit should be given to Dr. Knight for this magnificent charity.

Such an institution bears upon its face the imprint of medical and Christian charity. It is safe to predict for it, under Dr. Gibney's care, a continuous and increased usefulness. The JOURNAL wishes it God-speed.

A MOST COMMENDABLE MOVEMENT has been inaugurated in New York to promote simple and inexpensive burial.

The Burial Reform Association was formally organized in Grace Chapel, the Rev. Dr. Thomas H. Peters being in the chair. The Rev. Dr. De Costa read the report of the committee on the plan of organization, and the following specific reforms were adopted as the sentiments of the association :

1. The exercise of economy and simplicity in everything pertaining to the funeral.
2. The use of plain hearses.
3. The disuse of crape, scarfs, feathers, velvet trappings and the like.
4. The avoiding of all unchristian and heathen emblems, and of the use of any floral decorations beyond a few cut flowers.
5. The discouraging of all eating and drinking in connection with funerals.
6. The discouragement of any but immediate members of the family accompanying the body to the grave.
7. The dispelling of the idea that all the club or society money must be spent on the funeral.
8. The early interment of the body in soil sufficient and suitable for its re-solution into its ultimate elements.
9. The use of such materials for the coffin as will rapidly decay after burial.
10. The substitution of burial plots for family vaults.
11. The encouragement on sanitary grounds of the removal in crowded districts of the body to a mortuary instead of retaining it in the rooms occupied by the living.
12. The impressing upon officers of public charities and correction of the claims of the poorest to proper and reverent burial.

Every one will welcome the inauguration of such a movement, for it has long been the general opinion that the unnecessary expense and display entailed upon a family on the occasion of the death of one of its members, would be quite unendurable if it were possible to avoid it. By forming " Burial Reform Associations " in every town and city, the whole funeral system can be transformed. When a death occurs in a family at present, no matter what the means or tastes of the family may be, the direction of the funeral falls into the hands of those whose interest it is to make it as expensive as possible, and the family suffer in consequence of extravagance which should not have been committed. This is certainly an occasion for "acting in the living present," and it is hoped that these associations may become very general.

THE "Transactions of the State Medical Association of Texas for 1887" are not as handsome in appearance as those of the previous year.

This is to be regretted, as the volume is a valuable one, full of interesting matter, well and carefully edited, and worthy of presentation in a more permanent binding.

The transactions of the society are unusually interesting inasmuch as four members were brought up for trial, two of whom were dismissed and one of whom was suspended for a year, all of which was most commendable. In addition to this, charges, quite unfounded, were brought against the secretary, who in his character of secretary read them—and then in his character of defendant showed them to be absolutely false. — Had this not been a most painful and unwarrantable ordeal for the secretary, there would have been a humorous side to the matter worthy of the descriptive pen of a Cervantes.

THE TENNESSEE STATE BOARD OF HEALTH is always alert and efficient. It is impossible to overestimate the influence for good which such a body exerts in a community and State.

Indeed there is properly no limit to the circles of its ever widening power for good. There are only eight men composing this Board, but each one is deeply in earnest, and has an intelligent scientific knowledge of his work. The *Bulletin* for Nov. 15, 1887, contains a warm protest against the lack of caution and discipline in the New York Quarantine Station. It is believed that the *Bulletin*, however, somewhat overstates, not the perils arising from carelessness, but the carelessness itself. That there have been negligences, and that these have been happily exposed in the New York Quarantine Station, is certainly true, but that they have been remedied is also a fact. That vigilance will be more carefully maintained in the future cannot be doubted. In this connection, however, it should be remembered that it is the sanitary condition of the country at large, of each small hamlet, as well as of the larger cities, which is the real factor in the spread or curtailment of disease. Many of the most advanced sanitarians of the day consider that quarantine as observed in this country is worthless. They see that the English non-quarantine system brings better results in all English harbors than are obtained by foreign and American quarantine stations. But however that may be, there is no reason why this country should not have the benefit of both systems. It is only necessary that the State Boards of Health should so regulate the towns and villages, and influence public opinion, so as to educate the people in regard to the leading principles of sanitation. In doing this, the necessity of not only knowing but of acting should be made evident, so that all within their reach would be influenced to observe the laws of cleanliness and hygiene in every department of life.

CHOLERA BACILLI.—In view of the fact that we have had Asiatic cholera at our very doors, the recent investigations of some of our pathologists, in which they made bacteriological examinations of the dejecta of suspected patients, a means of differential diagnosis between this and other forms of intestinal diseases, possess more than ordinary importance and interest. The very great importance of such a differential diagnosis, by which we will be able to easily recognize the disease, must be patent to all, for by this means we are able, as it were, to take time by the forelock, and by detaining the suspected cases at proper places until the diagnosis is confirmed or disproved, prevent those cases from being a focus from which an epidemic of the dreaded disease might spread. On October 14, 1887, the steamer Britannia, from Marseilles and Naples, arrived at Quarantine with 408 steerage passengers on board, and reported three deaths during the voyage. No autopsies were performed, but the diagnoses made by the ship's surgeon were respectively eclampsia, tubercular enteritis, and perforation of the intestines by lumbricoid worms.

On October 16th a boy six years of age was removed from the ship suffering with an affection resembling cholera morbus. All the characteristic symptoms of Asiatic cholera were not present in this case, and, because of the lack of sufficient evidence of this disease having occurred among the passengers since the date of sailing, much doubt was entertained as to the real nature of the disease. On the 18th the boy died. The autopsy revealed nothing which would assist in deciding the question, and it was a matter of great importance that an absolute decision as to the nature of the disease should be arrived at. Dr. Armstrong, of the Marine Hospital, Stapleton, Staten Island, who was present at the autopsy, inoculated gelatin cultivation tubes from the contents of both ileum and colon. On the following day Dr. Kinyoun, of the same hospital, made transfers from the growth that had taken place in the tubes first inoculated to other tubes, and specimens of the latter, on October 20th, were carried to Dr. H. M. Biggs, of the Carnegie Laboratory, for examination. On microscopical examination bacteria were found which, in their morphological characteristics, correspond closely to those of the cholera spirillum. Dr. Biggs then asked to be allowed two days for the preparation, growth and examination of plate cultivations, as the morphological appearances are not characteristic enough to serve as a basis for diagnosis. Cultivations were also furnished to Dr. T. Mitchell Prudden, of the College of Physicians and Surgeons, and independent examinations were made by him, Dr. Biggs, Dr. Kinyoun, and Dr. Weeks, with exactly the same result; *i. e.*, they discovered and isolated an organism which corresponded in all its morphological and biological characteristics to the so-called cholera comma bacillus. The case was, thereupon, unhesitatingly declared to be one of Asiatic cholera, and was so reported to the proper authorities. The subsequent occurrence of other cases confirmed the diagnosis.

A SERIOUS PROBLEM: WHAT SHALL BE DONE WITH THE LITTLE BOOKS?—Every journal publishes in each issue, book notices beginning thus: "This little book." Every editor's table is covered with them. They are, really, for the most part, interesting, concise, valuable. They are deserving of study and of preservation. They contain the gist of yet unborn text books, without the irrelevant and unimportant accompanying matter. But what can be done with them? They are often in pamphlet form. When they are not, and can boast of tasteful bindings, their smallness and their inability to take care of themselves seems all the more touching to the lover of books. He regards them with tender anxiety, for he knows that they are doomed to be lost. Their little places upon the library shelves will sooner or later know them no more; and they will not even be missed, for often their faces are unmarked by name or title, and they make no impression upon the outside observer which is not limited to a more or less narrow color line. Other books, with their titles fully displayed, continue to exhale an influence of their own, long after they are read. Their presence is none the less effective because they are not in active use. The lover of books is sensitive to the least stir of influence which falls upon him from his books. He will have no locked doors or glass cases to keep this influence from saturating his heart and mind. He leaves his books free and untrammelled to do all of the good they can, long after they have been read and re-read. But for the "little books" there is no such mission to be hoped for, though deserving it often, more than many others. Could any one lose a volume of the Surgeon General's Index Catalogue? It drives up to the house in an express wagon, makes a noisy entrance into the library, and demands a place—and a large one; it suggests that more space must be speedily prepared for other incoming volumes already, perhaps, on their way. It remains standing as a monument of the immense results achievable by well-directed energy and Government funds. In the meantime, the poor little book which the journals have reported as "valuable," "indispensable," and "worthy of a place in every physician's library," slips behind the shelf, and is carried out by the housemaid, and is lost forever. What shall be done about it?

AN ACID THAT DESTROYS SWEET TASTE.—In a London letter to the *Journal of the American Medical Association* it is stated that a new acid has been discovered which removes temporarily the capability of tasting sweet and bitter substances. The credit of the discovery is due to Dr. D. Hooper. The acid is derived from an Indian plant, the *gymnema sylvestra*, one of the family of the *esclepiadiæ*.

If a few drops of the acid, well diluted with water, be taken into the mouth, and a sweet substance be eaten two or three hours afterwards, no taste of sweetness will be perceived. Under such circumstances gingerbread only tastes of ginger. If a sweet orange be eaten only the acidity can be detected. Sulphate of quinine, taken after a few drops of the diluted acid, gave the sensation of "so much chalk" only. It has therefore "anti-bitter" properties also. Dr. Hooper finds the substance similar in many respects to chrysophanic acid.

The name *gymnemic acid* has been given. Dr. Hooper thinks it will be a valuable addition to the pharmacopœia in disguising the taste of nauseous drugs.

THE MEDICAL CORPS OF THE NAVY.—At present there are thirteen vacancies in the medical corps of our navy. There are none in the army. The vacancies that occur in the latter are filled immediately.

It is hardly reasonable to suppose that the navy is distasteful to such a degree as seems to be indicated by virtue of the nature of the pursuit alone. As a matter of fact, the medical officers of the navy have no absolute rank, but one which is styled "relative." They receive the pay of an officer of the relative rank which they hold. An assistant surgeon holds the relative ranks of an ensign, and for three years is relegated to the steerage (at sea). His associates are young men wholly his juniors in years. His quarters are small and uncomfortable, and by no means conducive to thought, study, and experimental work for which the abundant leisure on shipboard offers such eminent opportunities. At the end of three years, if he pass his examination successfully, he is styled past-assistant surgeon, with the relative rank and the pay of lieutenant. He is then admitted to the ward-room, and his lot becomes more endurable.

In the army an assistant surgeon enters with the absolute rank and the pay of a first lieutenant of cavalry. He moves with men of his own age or his elders, occupies a dignified position, and receives the full consideration to which his profession and qualifications entitle him. At the end of five years, if he passes his examination successfully, he attains the absolute rank and the pay of a captain of cavalry. Every opportunity is given him for scientific investigation, and the purse-strings of the Army Department are at his command for such purposes.

The army presents illustrious and many examples of medical men who have done good work in scientific investigation ; the navy presents comparatively few.

The *raison d'être* of this condition of affairs it is not difficult to understand.

That the standard of the medical corps of the navy, as well as of the army, should be high is undoubtedly the wish of the whole medical profession ; but let there go with it the rank, dignity, and advantages that are allowed medical officers in the army.

We are pleased to see that the attention of Congress will shortly be called to the consideration of this matter. It is sincerely to be hoped that we shall not have to record an instance of the " law's delay " in remedying the present evils.

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ORIGINAL ARTICLES.

ARTICLE I.

ANTIPYRETICS.*

BY DR. T. MORTIMER LLOYD.

For the furtherance of the discussion of the subject for the evening, I will read some notes culled from some recent articles, and present a few clinical observations.

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* Read before the Kings County Medical Association, November 8, 1887.

The number of antipyretics now presented to the profession (a recently published list enumerates twenty-eight, which does not include all), and the increasing literature of the subject necessitates but a short reference to the more prominent new ones, and little more than the summaries of experimental and clinical observers.

It may not be amiss to glance at some of the expressed and accepted views relating to the pathology and therapy of fever, as they have an especial bearing upon the use of antipyretics.

Dr. Finkler (University of Bonn) considers " that by our studies of the nervous system, by the large number of agents which depress temperature, and from our knowledge of infection, we are able to form a reasonable hypothesis regarding the phenomena known as fever," and states that it is proven that the heat-producing and regulating mechanism of the body is at fault. He believes that Pflüger's laboratory researches have shown that fever is a neurosis, a paralysis of the centre which governs temperature. He observes that antifebrile treatment by baths must be given with reference to the laws governing the nervous mechanism of heat, and when so given is of the greatest value. Drugs which directly influence fever exist, but have few grounds of decided worth. Combined treatment by baths and specifics he considers the most efficient. (*Therapeutic Gazette*, January, 1887.)

Dr. H. C. Wood, of Philadelphia, advanced the following propositions at a recent meeting of the Association of American Physicians (which are quoted in part):

1. Fever is a disturbance of calorification in which, through the nervous system, heat dissipation and heat production are both affected. (Dr. Wood acquiesced also in the belief expressed by Dr. Welch, of Johns Hopkins University: that the experiments of Aronson and Sachs had established the existence of accelerator heat nerves.)

2. That heat production is regulated by a nervous apparatus. There is certainly an inhibitory centre which depresses or controls the production of heat.

3. Heat dissipation is regulated through the vaso-motor nerves, so that vaso-motor paralysis is followed by an enormous loss of animal heat, and, under unfavorable circumstances, by death from cold.

4. Drugs may lower bodily temperature in health or in fever by increasing heat dissipation.

Almost all the physicians who took part in the discussion were in accord in believing that the modern antipyretics, such as antipyrine and antifebrine are, in most cases of fever, efficacious in reducing temperature, and that when properly used they do not affect the general strength or force of the circulation: and whilst they are entirely devoid of any power in controlling the course of specific fever, they often do good by quieting the pain, promoting sleep, or overcoming restlessness through the reduction of temperature. Almost all the speakers who claimed to have experience with the cold bath appeared to believe that its action was more favorable than was that of the antipyretic remedy.

Among the conclusions reached by Dr. Austin Flint, in an address on "Fever; Its Causes, Mechanism, and Rational Treatment," before the International Congress, are these:

5. Fever, as observed in the so-called essential fevers, may be defined as a condition of excessive production of heat involving defective nutrition or inanition, an excessive production and discharge of nitrogenized excrementitious matters and carbonic acid, with waste and degeneration of the tissues, and partial or complete suppression of the production and discharge of water.

6. Aside from the influence of complications and accidents, the ataxic symptoms in fevers, the intensity and persistence of which endanger life, are secondary to the fever, and are usually proportionate to the elevation of the temperature. These symptoms are ameliorated by measures of treatment directed to a reduction of the general temperature of the body.

7. In fever, the effects of inanition, manifested by destruction and degeneration of tissues, are intensified by a deficient formation and excretion of water.

The phenomena of fever have been divided by Dr. Donald McAllister into thermogenetic, thermotaxic, and thermolytic. Drs. Isaac Ott and Chas. Collmar, of Easton, Pa., who have made special discoveries in the nervous mechanism of fever, "believe the thermogenetic apparatus to be mainly seated in the spinal cord." The thermotaxic apparatus located by Dr. Ott "has its cerebral origin (1) in the tissues about the corpus striatum, (2) Schiff's crying centre, and (3) the anterior end of the thalamus." "The thermolytic apparatus, or heat-dissipating apparatus, consists of the vaso-motor system, sweat glands, the lungs, and the reflex action of surface sensory nerves on the thermotaxic or inhibitory apparatus, allowing increased or diminished heat production, according to the requirements of surrounding temperatures."

Dr. Ott elsewhere states that the ascribing of fever, sleep, and the action of peripheral irritants to the modifications of the circulation is an entirely erroneous view of the true state of affairs in these cases;

the circulatory changes are merely associated phenomena. (*Therapeutic Gazette.*)

Dr. Peter J. Martin has studied the effects of kairine, thalline, antipyrine, hydrochinon, and antifebrine upon heat producing and heat dissipation in the private laboratory of Dr. Ott, Easton, Pa. Hydrochinon, he says, generally in full doses, causes increased production and increased dissipation, the latter being greater. By this means the temperature is lowered. The thalline experiments demonstrated an increased dissipation, while half of them show increased production, and the other half diminished production. The increase of dissipation is much greater than that of production. These results prove that thalline reduces fever by increasing dissipation, while its effect upon heat production is variable even with the small dose. The results with kairine were not uniform, but "this drug reduces temperature by decreasing heat production and increasing heat dissipation." Of antipyrine he concludes (or reports): "Generally it may be said that antipyrine decreases heat production and increases heat dissipation, thus being an ideal antipyretic."

KAIRINE. — Dr. Dujardin-Beaumetz thus characterizes kairine: "After half gramme doses hourly, for four hours the fever fall is two or three degrees, the patient sweats, feels depressed, and his urine takes on a black color. The patient rapidly recovers the temperature which he had, before giving the medicine, and this new thermic elevation is preceded by an intense chill. The transient duration of the antithermic action of kairine and the production of chill, is not the only inconvenience of this medicament. There is a more serious evil resulting from it, for kairine acts on the red globules and on the oxyhæmoglobin, which it destroys. Kairine, then, ought to be discarded from therapeutics."

Dujardin-Beaumetz reports that thalline, like kairine, diminishes the respiratory power of the blood and destroys the hæmoglobin, and cites the researches of Brouardel and of Paul Loye as demonstrating the fact.

THALLINE.—Ehrlich has presented to the Clinical Society of Berlin the results of some researches with this agent, especially in the treatment of typhoid fever.

"From experiment he had found that after administering the drug to animals it was not retained in the nerve centres, but mostly in the fatty tissue of the body. He also found that there was a marked difference in toxic action, according as to whether it was administered by the mouth or subcutaneously, the greater inertness of its effect in the former case being attributable to the hindrance to absorption from the presence of intestinal contents. The lesions induced by a toxic dose comprised fatty degeneration of the kidneys, necrosis of the salivary glands, and pancreas and hæmorrhagic infarctus in the renal pyramids. The chief action of thalline is antipyretic, but it is capable also of moderating inflammation. The action of thalline is especially noticeable in its effect on the sensorium and general condition of the patient, who presents the appearance of convalescence whilst the splenic swelling and roseola are still present; and if the drug be discontinued the temperature will rise again. It is not, therefore, surprising to learn that whereas of twenty-eight cases treated by bathing, the average stay in hospital was thirty-seven days; of seven cases treated by minimum doses, the duration of treatment was forty-seven days, and cases on a scale of progressive doses, thirty-eight days. However, Dr. Ehrlich claims advantages for the use of the drug in the absolute control it exerts over the pyrexia, and the sense of well-being to the patient. There were no intestinal hæmorrhages in these cases and no instance of perforation. The kidneys were not affected, but sequelæ in the form of hyperæmia and œdematous swellings seemed due to the use of the drug."

Dr. Ehrlich considers it to be on a level with the bath treatment.

Dr. Frankel pointed out that if the statement were correct that thalline is not found in the nerve centres, its action in reducing temperature was rather inexplicable. He had administered it in increasing doses, but could not say that the patients experienced any special benefit attributable to the diminished fever.

Dr. Guttman had not been favorably impressed by its use, and had noted the production of rigors. (*The Lancet*, December 25, 1886.)

ANTIPYRINE.—Dujardin-Beaumetz regards antipyrine as the best and least dangerous of the antithermics hitherto introduced. The medicament, he says, has little action on the circulation. Unlike kairine, it does not seem to modify the blood, and in particular the hæmoglobin. Antipyrine is eliminated by the urine. Smaller doses of antipyrine are required to reduce temperature in phthisis than in typhoid fever. In pneumonia he advises the use of antipyrine when the temperature becomes too high. Among the eruptive fevers he mentions scarlet fever as being a disease where the powerful antithermic action of this medicament will find its indications in the anomalous and hyperpyrexial forms. He adds: "For my part till something better is found, I prefer baths in typhoid fever to all these medicaments." He administers baths at a temparature of 95° to 97° Fah.

Guttman, of Berlin, 1884, reported upon the action of antipyrine in thirty-seven cases of febrile disorders. In quantities of from one drachm to one drachm and a half, which are best given in two or three doses at intervals of an hour. Antipyrine is a powerful and very certain antipyretic. The effects last five hours, and usually and frequently much longer. The fall, from a drachm and a half, in three-hourly doses, varies from 2½° to 3½° Fah. It differs from kairine in the following particulars:

1. The fall of temperature is much slower from antipyrine.

2. The subsequent rise in the temperature is also much slower, and on this account the ascent is never attended with rigors as it frequently is when kairine has been used.

Dr. B. F. Westbrook has given an instructive report (*New York Medical Journal*) upon the subcutaneous use of antipyrine in isolation. Cases are reported (*Therapeutic Gazette*, May, '87) of the beneficial effects upon the high temperature of pelvic and diffused peritonitis, malarial fever and measles.

Dr. James Stewart (*Canada Medical and Surgical Journal*, July, '85) makes a comparison between antipyrine and thalline. He concludes that both agents have a very certain action in reducing fever when appropriate doses are given. They both act more powerfully as antipyretics in the pyrexia of pulmonary tuberculosis and typhoid fever than that of any other disease. He states that thalline is somewhat longer in causing a fall of temperature, but once its effects are manifest the maximum depression is quickly reached—usually within two hours after. He estimates the duration of the fall with thalline about one-half that induced by antipyrine. The subsequent ascent after antipyrine is somewhat slowler than it is with thalline. Neither agent can be said to be perfectly free from untoward effects, but they are less marked after antipyrine than with thalline. Both cause more or less sweating. Rigors frequently attend the subsequent ascent of the temperature after thalline, while they are extremely seldom after antipyrine. Both cause exanthems, which quickly disappear after the effects pass off. He regards kairine as a cardiac depressant, giving this as the reason it has been practically discarded from practice. He thinks thalline likewise not free from danger, rating antipyrine as a comparatively safe remedy. Dr. Francis Minot, Boston, has recently reported on the use of antipyrine and thalline in twenty-four cases of typhoid fever in the Massachusetts General Hospital. He testifies to the efficiency of their action in reducing temperature; their apparent safety; the promotion of comfort to the patient by their use; the absence of specific or decided effect upon the course or issue of typhoid fever; that all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient to the dangers of exhaustion and shock consequent on the fatigue of removal from bed; that these remedies may be given without danger to the youngest patients in suitable doses. Two fatal cases are reported (*Therapeutic Gazette*, August, '87) from the use of antipyrine. Numerous cases are on record where collapse has followed the use of antipyrine in doses of forty-five or thirty grains. In one case, in a few minutes after the administration of a dose of fifteen grains, cyanosis of the face, increased respiration and pulse frequency, dyspnœa, and sensations of extreme heat over the entire body, made their appearance.

Dr. W. H. Porter (*New York Medical Journal*, July 30, '87) presented to the New York Pathological Society the liver and kidneys of a patient to whom large doses of antipyrine had been given, in which, as a result of the action of that drug, it was thought extensive fatty and granular metamorphosis had taken place. He had noticed for some time that in the bodies of patients who had been treated with antipyrine there was very frequently fatty and granular metamorphosis of the liver and kidneys. He had therefore come to believe that antifebrine, antipyrine, and thalline, were not such safe antipyretics as had been maintained.

Personal Experience.—I have used antipyrine to modify high temperature in diphtheria, scarlet fever, measles, facial erysipelas, phthisis pulmonaris, and most frequently in typhoid fever. In all these diseases, excepting scarlet fever, it has proven serviceable to me. In several cases of scarlet fever, with hyper-pyrexia (in two children the thermometer registering 106° Fah., when first seen on first day of eruption) the drug failed to lower the temperature.

I shall be specially interested to learn the experience of the Fellows with the drug in this disease. In one case of facial erysipelas, treated with large doses of tr. ferri chlor., with grave symptoms attending the extension of the disease, and hyper-pyrexia on the third or fourth day, the effect was especially happy. The temperature was reduced by antipyrine, and did not again rise above 100°, although this drug was discontinued. In other cases of the same disease, its use was attended by favorable effects. In typhoid fever, my purpose was to keep the temperature within the danger line. Ten-grain doses were most frequently employed, when the temperature should rise above 103° Fah., and repeated as required, in one to two hours, for two or three doses. The pulse, as a rule, was diminished in frequency, and improved in character with the fall of temperature. Sweating generally supervened. Vomiting rarely occurred, when whiskey was associated with the drug. Rigors were observed in two or three instances where the temperature was improperly reduced to the normal or subnormal degree, and the chill attended the subsequent rapid rise, being analogous to the chill, where it is the symptom of a rapid rise in malarial fever.

From the date of the first application of antipyrine to therapeutics, it has been employed in the treatment of rheumatism, and, since early in 1884, Alexander has noticed its good effects in calming articular pains. These observations have been confirmed by Demme, Demuth, Masius, Bernheim, Lenhartz, Neumann, Clement, Blanchard, Moncorvo, Fraenkel, etc. Then, in consequence of its proved analgesic action in this disease, it was employed in other painful affections, and two years ago it was recommended by Khomiakoff and Livoff in migraine, while last year J. Blake White, of New York, and Sprimont in their turn found it to be of utility in hemicrania.

Dr. John Blake White writes, "Antipyrine, when administered in masterful doses, not only promptly relieves the symptoms of headache whenever present, whether resulting from disordered digestion, disturbance of the menstrual functions, loss of sleep, undue mental effort, or uræmia, but also possesses reliable prophylactic virtues against recurrent attacks of cranial neuralgia." (*Practitioner*, November, p. 379.)

According to Dr. Germain Sée (*Therapeutic Gazette*, 395, June 27th, September 26th), "Antipyrine is the remedy, par excellence, for pain, and far superior, in every way, to antifebrine."

"In fifteen cases of subacute rheumatism or hydrarthrosis, treated unsuccessfully by salicylate of sodium and ignipuncture, the pain and swelling disappeared in a few days, and the medicine being continued there was no relapse. The same effect was observed in cases of acute gout, both primary and secondary, to chronic gout with chalky deposits. But it is, above all, in nervous pain that its action is most remarkable. A first group comprises four cases of facial neuralgia, one of which was inveterate; six of migraine, with one failure, and four headaches. In a second series are classed five cases of sciatica, one of simple neuritis, with zona (one failure). Cases of lumbago and muscular rheumatism make up a total of eighteen. The third category relates to five cases of locomotor ataxia, in four of which the pains were removed by antipyrine. The last group comprehends those affections of the heart, aorta, and coronary arteries, in which angina is a most painful symptom.

In six patients with cardiac-aortic disease, and in three others with aneurism, the painful manifestations disappeared entirely, without any evil effects being caused by the medicine on the strength or regularity of the cardiac pulsations. If too much is given at one time, nausea and giddiness may supervene, but when the whole amount is divided into small repeated doses of 7½ grains, no disagreeable effects are observed."

Dr. Sée experimented on dogs to ascertain how antipyrine could bring about cessation of pain, and noted the following phenomena:

1. A very notable diminution in the general sensibility, and a real analgesia in the member which received the injection of the remedy—sometimes also in the opposite limb.

2. The electrical excitation of the sciatic nerve in the animal under antipyrine produces only a very feeble reflex contraction indicating the enfeeblement of the sensory perceptivity and reflex activity of the spinal cord.

Chouppe has arrived at similar conclusions by a different path.

Dr. Sée again reports on the use of "antipyrine subcutaneously in place of morphine." In patients suffering from biliary calculi, the drug gives the best results, without disturbing the intestinal functions. In nephritic colic it is equally valuable, as it relieves the pain without deranging the secretion or voiding of urine. In asthma and severe dyspnœas of whatever origin, antipyrine checked the paroxysm most promptly. Attacks of angina pectoris are diminished in number and violence by these injections. Antipyrine promotes and facilitates expectoration in asthma, without suppressing the bronchial secretions.

Antipyrine in Hemicrania.—Unger, of Bonn, was led by the similarity of action of antipyrine with salicylate of sodium to try the former in hemicrania. He found that when given in the beginning of the attack, or in the prodronial period, the drug either wholly prevented an attack, or made it very much milder. Patients who were not generally able to be about during an attack, were able, after taking it, to maintain their usual avocations. Antipyrine is not, however, a reliable drug in all headaches.

Dr. T. S. Robinson states in the *Medical Record* for May 7, 1887, that he has a record of over eighty cases in which antipyrine was used for the relief of migraine. In fifty-four the drug acted favorably in from thirty minutes to two hours. In fifteen cases the pain was much abated. In eight cases it had little or no effect. He recommends that patients who are subject to attacks of hemicrania should keep powders of antipyrine of twenty-two grains each constantly on hand, and that on the first symptom of the attack, one powder should be taken in a little vichy water and repeated in two hours if the pain is not abated.

Dr. Allen McLane Hamilton (N. Y. *Medical Journal*, May 28, 1887) found in angeio-spastic migraine with evidences of cutaneous anæmia, dilated pupils and coldness, the headache commencing in the morning, that both antipyrine and antifebrine would quickly abort the paroxysms after the first dose. Dr. Hamilton has also used both drugs in cases of habitual insomnia in does varying from three to eight grains of the antifebrine, and ten to twenty of the antipyrine without appreciable result. There can be no doubt, however, that in wakefulness due to general disease, especially with high temperature, the value of both these drugs as hypnotics is very great. It would seem that both remedies were of value in headaches, or cerebral states, attended by anæmia or in the excitement due to cell malnutrition or exhaustion, and though antipyrine seems to be the more serviceable remedy it possesses drawbacks which do not belong to antifebrine.

Personal Experience.—I have prescribed antipyrine with marked relief in several cases of supra-orbital neuralgia. In one case of intercostal neuralgia it abridged and controlled repeated paroxysms. I have used it, administered subcutaneously, about thirty times with positive relief, in two cases of sciatica, and one of sub-acute rheumatism, with a painful and badly inflamed hand and wrist.

In one case of severe lumbago and sciatica, where cold water hypodermic injections were used as a test, followed by morphia injections which gave but temporary relief, antipyrine gave more prolonged relief from the first injection, and being continued twice daily made the patient quite comfortable and soon permitted freedom in walking. Seven and a half grains were dissolved in a teaspoonful of water at first, but afterwards more freely diluted as the patients experienced a burning sensation for a few minutes following the injection, and in one case inflammation occurred at seat of puncture, lasting four or five days, but unattended by suppuration. This was probably partly due to the solution being too concentrated (in accord with the observation of Dujardin-Beaumetz) although injections of the same strength were used before and after, in the same and other patients without this result.

ANTIFEBRINE OR ACETANILID.—Dr. E. W. Evans, Easton, Pa., from experiments made in the private laboratory of Dr. Ott upon artificially fevered animals concludes that, "acetanilid is a powerful, safe and certain antithermic agent and that its antipyretic effect in fever is due to the reduction it causes in the amount of heat produced, whether by direct stimulation of the inhibitory heat centre, paresis of the spinal heat centres, or by an action of the tissues themselves, remain to be demonstrated.

Dr. H. A. Hare (University of Pennsylvania) makes these conclusions among others, as the result of experiments:—

1. Antifebrine effects marked depression of normal bodily temperature.

In his opinion the drug in lowering temperature acts as an arterial sedative.

4. This drug reduces normal temperature apparently by influencing both production and dissipation.

5. Antifebrine in fever chiefly reduces the high temperature by decreasing heat production and is therefore a valuable antipyretic.

The researches of Dr. E. Krieger (*Therapuetic Gazette*, February, 1887) with antifebrine not only corroborate the claims of Heppe and Cahn as to the antipyretic virtues of the drug, but have also yielded the fact that the new remedy possesses energetic antiseptic properties (this effect denied by Dujardin-Beaumetz).

Krieger made his observations in the following eighteen cases: Typhoid fever, four cases; intermittent fever, three; croupous pneumonia, three; acute articular rheumatism, three; pleurisy, two; diptheria, one; puerperal fever, one. Besides, the drug was exhibited in several cases of facial neuralgia, where it caused the immediate disappearance of otherwise regularly appearing paroxysms. Krieger found that slight action set in very soon after the ingestion of the drug, but an intense action was not observed until after the third hour, and between the sixth and the tenth hour all action had disappeared. Simultaneously with the temperature the frequency of the pulse is lowered, while its magnitude and tension increase. He states that no secondary symptoms were ever recorded in the course of the antifebrine treatment, except a regularly discernible cyanosis of the cheeks and the visible mucous membranes. Vomiting or even an inclination to vomit—such as frequently attends the ingestion of antipyrine—was likewise not observed. Sweating has been seen in a few instances and a great appetite in numerous cases as a result of this treatment. The action of antifebrine, though it was in no instance negative, manifests itself quite differently in different affections. Typhoid and intermittent fever receive the greatest reduction of heat. In pneumonia, pleurisy and especially in puerperal fever, the antipyretic properties of antifebrine are less conspicuous. The entire absence of rigors in the re-ascent of temperature is an especial feature of the antifebrine action.

Dr. Wm. Osler, of Philadelphia, gives an excellent report on antifebrine, and some charts which will repay examination, in the March, 1887, number of the *Therapeutic Gazette*. His observations confirm those of Heppe, Cahn and Krieger, as to the reduction of temperature and action on the circulation, except that "the slight cyanosis mentioned by one or two German writers did not occur in any instance." The action of antifebrine was almost invariably accompanied with profuse perspiration. On the urine, the only change noted was a marked increase in the amount in some cases. This is probably a direct result of the increased arterial tension. The effect on the general condition seemed usually beneficial, a quiet sleep often followed an hour or so after its administration.

Eisenhart, in the clinic of Ziemssen, in Munich, reports the use of antifebrine in thirty cases. He concludes that in doses of from four to eight grains antifebrine was a very valuable febrifuge reasonably certain of success.

Dr. Walter Barr, Bridgeport, Ill. (*Therapeutic Gazette*, June, 1887), reports a very interesting study of the effects of antipyrine and antifebrine upon himself during a fever of five weeks duration, he sums up thus:—

ANTIPYRINE.	ANTIFEBRINE.
Lowers temperature in half an hour.	Lowers temperature in an hour or more.
Effect lasts two hours.	Effect lasts six hours.
More diaphoretic.	More diuretic.
Depressing after-effects.	No after-effects.
Cerebral sedative.	Cerebral vaso-motor stimulant.
Dose fifteen to thirty grains.	Dose five to fifteen grains.
Tolerance from continued use.	Tolerance from continued use.

He believes antifebrine is much to be preferred in continued fevers. In insolation and other cases where a quickly acting antipyretic is necessary and where it has a specific action on the pathology of the disease, as is claimed in rheumatism, antipyrine is to be preferred. He thinks the stimulant or tonic effect of antifebrine to be very valuable in weak patients.

The advantages of antifebrine are, quoted from Mr. J. Murray (*British Medical Journal*, April 23, 1887), as follows:

Antifebrine seems much more powerful than quinine, kairine or antipyrine. It equals antipyrine in the duration of its effects, and in this respect surpasses quinine or kairine. It is only excelled in the quickness of its action by the external application of cold. Its effects are evident within an hour, and they last from ten to twelve hours when a full dose has been administered. When administered for a long time the dose must be increased. It produces profuse sweating and redness of the cheeks; it diminishes the pulse rate, and distinctly increases arterial tension. He found no depressing effects follow its administration, even when full doses were given.

Antipyretics belong to two great classes, viz: Those which diminish tissue metabolism; and, secondly, those which increase the loss of heat. From the sweating it induces, and the rise in arterial tension, one might conclude that it belongs to the second class as well as to the first one. This might explain the quickness of its action, as antipyretics of the second class act more speedily than those which diminish tissue metabolism.

WARNINGS ABOUT THE USE OF ACETANILIDE.

The Lancet, July 9, 1887, reports from two articles in a Hungarian medical journal, that antifebrine, though not without value, is an uncertain, and indeed a dangerous, antipyretic.

Dr. Géga Dulackska finds, after giving the drug a prolonged trial in the hospital, that small doses may bring down fever, but that in some cases even three-grain doses produce violent sweats, prostration, and hæmorrhage or cyanosis.

The same observer found it valuable in certain neuroses. In a case of severe trigeminal neuralgia, in which quinine, gelsemium, and morphine had produced but little improvement, acetanilide was ordered, seven and a half grains being divided into ten powders, one to be taken every two hours. This produced a great improvement, and after ten days of this treatment the cure was complete.

Dr. Bird gave acetanilide in eighteen cases of various kinds, in doses varying from one and a half grains to forty-five grains per diem, and was much struck by the uncertainty of its action, an effect being sometimes produced by a grain and a half, while at others ten or twelve grains had no effect at all. Most of the patients complained of chilliness, while cyanosis and irregularity of pulse occurred in several cases.

Altogether Dr. Bird thinks that the evil effects of acetanilide are so great that it cannot be recommended for general adoption.

PERSONAL EXPERIENCE.

These are temperature charts which I offer for inspection of twelve typhoid fever cases occurring during my hospital service since September 1st. Three remain convalescent, the rest recovered. They chiefly illustrate the plan pursued in the administration of the antipyretics, viz., in the evening, when the temperature had nearly or quite reached 104° Fah. Antifebrine was the antipyretic agent used with a few exceptions. Circumstances prevented as frequent observations as I should have liked, but more than twenty instances are shown where antifebrine was given earlier in the day, the hour and dose noted, and the effect recorded a few hours later. It will be noticed how small doses, two and a half to five grains, almost invariably lowered the temperature from one to three and even four degrees at hours when the natural tendency was toward a rise. (On the first five charts, lead pencil cross marks have been made to designate each of these observations.) Some of the cases ran a milder course and did not require antipyretic medication.

Here is a collection of charts of twenty-two cases of typhoid fever, treated in 1876, where no antipyretic medication was practiced, (offered for comparison with the preceding). Most of the cases were severe, two deaths occurred.

It will be observed that higher temperatures were reached and sustained longer, both in the daily record and the duration of the fever, with a much higher average pulse and respiration rate, than in these recent cases, with antipyretic medication.

This would indicate, if the inference may be drawn from a few cases, a conservation of vital force in a disease which especially tends to exhaustion, in favor of the use of moderate antipyretic doses which modify and interrupt continued high temperature.

Five of the recent cases had weak hearts, attributable to other causes than the use of antifebrine. There were no hæmorrhages or complications other than bronchitis. Constipation was the rule after the first few days treatment, milk diet was almost exclusively adhered to, given hot, as much as practicable in the severer cases, which method I consider a valuable auxiliary on account of its diaphoretic and diuretic effects. Whiskey was freely used in the grave cases. Vomiting and rigors were not produced by the drug. No cyanosis was observed.

The dose was always guarded by one or two drachms of whiskey.

The pulse generally improved in rate and character with the reduction of temperature. Antifebrine is apparently more certain in its antipyretic effect than antipyrine.

Dr. Joseph Leidy, Jr., of Philadelphia, reports (*N. Y. Med. Journal*, October 29, 1887,) on the use of acetanilide and antipyrine in the treatment of epilepsy, 36 cases; hysteria, hystero-epilepsy, insomnia, supra-orbital and sub-occipital neuralgia, 15 cases; intercostal neuralgia, nervous headache, sciatics, 17 cases; lumbago, rheumatism, and tabes dorsalis. He acknowledges aid from Drs. Pepper and Osler, and forms the following conclusions (quoted in part):

1. In epilepsy when acetanilide does good, its action is rapid; it does so by diminishing the violence and number of the attacks, and, as it has a tendency to aggravate the disease in some cases, * * * its use should not be continued over two weeks unless some benefit has been obtained. * * * Antipyrine has proved itself inferior in every respect to acetanilide. Neither remedy is to be used as a substitute for the bromides, but simply as an addition to the limited number of drugs now at our command.

2. As an analgesic, acetanilide has proved itself a valuable remedy; the majority of the cases treated have been benefited. Antipyrine appeared beneficial in several cases, though it is not to be ranked with acetanilide.

3. As a hypnotic further experimentation is needed, but from the cases under observation both drugs are of doubtful efficacy.

In the administration, acetanilide was used first and considered the safer drug. From acetanilide there are no objectionable after-effects, except it be cyanosis, which only occurs after the injection of large doses, and usually in cases attended by marked elevation of temperature; on the other hand, collapse, disturbances of the gastro-intestinal tract, respiration and circulatory apparatus, with fatty metamorphosis of the liver and kidneys (Dr. Porter, *N. Y. Med. Journal*), prove sufficient objections to the use of antipyrine.

The dose of acetanilide varies from gr. iij to x; that of antipyrine, gr. x to xv.

In my experience antifebrine succeeded in a case of intractable migraine, with malarial history, under daily observation for weeks, where the paroxysms recurred daily with such severity that morphia hypodermically was required for their abatement; large doses of quinine and a long list of remedies, including antipyrine, failed in breaking up the attacks until antifebrine was administered, which alone controlled the paroxysms and prevented their recurrence. Five-grain doses were given at bed time, and early in the morning, as the paroxysms occurred from 7 to 10 A. M. Occasionally a second morning dose was required.

In a case of continued fever, lasting two weeks of mild type, a severe headache recurred daily—after the trial of several remedies which only proved palliative, antifebrine succeeded in controlling it.

Four months later, the same patient was relieved of a severe attack of supra-orbital neuralgia, necessitating absence from business, by one dose of five grains. It controlled two attacks of migraine in another patient.

It remains for investigation and additional clinical experience to determine the further disadvantages of antifebrine (as has been done more completely with the earlier antipyretics) the explanation for the occasional cyanosis, whether it, too, has an active deleterious effect upon the blood; and also whether it favors fatty metamorphosis of the tissues. That it is a valuable addition to our armamentarium, there seems to be but little doubt.

Some observations on the antipyretic action of nitrogenized air have been made by Dr. Francisco Valenzuela, of Madrid. He compared its action in reducing temperature with that of cold applications, quinine, antipyrine, digatalia, and arsenic, and concludes that the inhalation of nitrogen is the only method of treatment, the cessation of which for a day is not followed by a rise of the temperature to its former height. (*Therapeutic Gazette*, April, 1887.)

The same writer read a paper at the last session of the Royal Academy of Medicine of Madrid on "The Effect of Oxygen of High Tension Upon the Animal Organism."

He has been complimented for the "amount of original investigation." He reported marked effects upon the temperature of animals, and in one case of double pneumonia in man. (*Therapeutic Gazette*, September, 1887.)

ARTICLE II.

THE SIGNIFICANCE AND LOCALIZATION OF PAIN IN PELVIC DISEASE.

By HENRY C. COE, M.D., New York.

Considering the fact that local pain is the symptom which usually impels a woman to seek the aid of the gynecologist, and that the relief of this pain is the object aimed at in most of his manipulations and operations, it would seem as if our information on this point ought to be more definite than it is. However satisfactory it may be to the surgeon to contemplate a neat and artistic bit of plastic work upon the genito-urinary tract, or to insure a rapid and easy convalescence after laparotomy, if the patient experiences but little mitigation of the pain, to be rid of which she submitted to the operation, in her opinion, at least, it has not proved eminently successful. This may be a narrow view to take of the subject from a scientific standpoint, but it is a practical one. In any branch of medicine the most intelligent patient measures the skill of the physician by his ability to afford prompt relief from present suffering, and it is difficult to convince her that there is any improvement in her condition so long as the pain persists. Pain is the popular indication of existing disease, the seriousness of the latter being proportionate to the severity of the former. This is especially true in pelvic troubles, where the subjective element is so prominent; that patients are constantly at fault in their inferences is a matter of common experience. How often does epithelioma of the cervix make fatal inroads without giving rise to much more pain than does a simple displacement! The inability of the average patient to describe clearly, and to localize, pelvic pain will be apparent on reviewing the vague symptomatology recorded in hospital and dispensary case-books; nor is the connection between the symptoms and the local condition always established by the vaginal examination. The question has often presented itself to my mind: If the true origin of this pain is obscure and ill-defined, how can one hope to remove it by treatment directed more or less at random? It is greatly to be regretted that this subject has not received more attention from neurologists, whose studies would naturally lead them to view it from a less materialistic standpoint. It certainly furnishes as legitimate a field for their investigation as do diseases of the central nervous system. It is with some trepidation that I bring this subject before the society, because I am conscious of the fact that you must regard with a certain degree of suspicion the off-hand manner in which gynecologists explain nervous symptoms, which you know to be by no means so easy of elucidation. However imperfect this paper may be, I trust that it may at least provoke a discussion which will be of peculiar value, in that it may tend to throw new light upon the obscure subject of pelvic pathology. The matter is naturally considered under two heads, the subjective and objective —the significance of pain as described by the patient, and its localization by the physician. Reflex pains will be discussed separately. It is unnecessary to call attention to the fact that it is a delicate and difficult matter to decide from a woman's own statement concerning the exact character and severity of the pain of which she complains, since there is a common tendency to exaggerate this symptom for which we may not make due allowance until after several interviews. Again, her ability to describe its exact character, site and mode of occurrence, is usually limited. Certain pains, such as back-ache, "bearing down" sensations, etc., are so vague and general that we cannot assign any special importance to them except in connection with more definite pelvic symptoms. Even the pains which are commonly regarded as more or less characteristic of a certain pathological condition are associated with other conditions of a widely different nature. Let us glance at a few of these pains which are sometimes referred to in the text-books as almost pathognomonic, and see if they cannot be reduced to a common basis. The throbbing pain of acute inflammation is excluded as possessing no features peculiar to the region of the pelvis. Among these are constant, aching pain over the lower part of the sacrum, shooting pain in the ovarian region, which is subject to exacerbations just before the menstrual period, and the peculiar "gnawing" pain in the pelvis which accompanies carcinoma uteri. The subject of dysmenorrhœa would be an interesting one for discussion, especially with the view of determining how much of the pain is of uterine, and how much of ovarian, origin, but to treat it at length would lead us away from the main question.

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*Read before the New York Neurological Society, November 2, 1887.

Chronic pain over the sacrum (as distinguished from the backache so common in women) seems to point quite constantly to some morbid condition of the internal generative organs. It is to be carefully distinguished from purely referred pain similarly located, but having more of a neuralgic character, or from that due to direct pressure on the sacral nerves. This symptom is indicative of some lesion in the posterior half of the pelvis, and it has seemed to me that it is nearly always referable to subacute or chronic inflammation of the perimetric tissues. It is, of course, noted in connection with retro-displacement of the uterus, prolapsed ovaries, and malignant disease, but a careful study of such cases will generally show that it is most constant and severe when these conditions are associated with inflammatory processes in the peritoneum, or connective tissue, or in both. With reference to the latter, "it by no means follows, (to quote from Mundé's "Minor Surgical Gynecology") that the plastic exudation is of great amount, forming an actual tumor." "As a rule," the author adds, "the sacralgia increases in proportion to the size and extent of the exudation." This explains why pain in the sacrum is so common in connection with acquired antiflexion, where there is no question of direct pressure on nerves; the cause is to be found in the parametritis posterior which precedes, and leads to, the displacement. It explains, moreover, why adhesion of the retroflexed uterus is associated with so much more constant and severe pain than is simple retro-displacement, without imprisonment of the organ. We can hardly attribute the pain to direct pressure on the sacral nerves, because the rectum is interposed and Barnes' explanation seems rather forced. This author (Diseases of Women, page 105), says: "The pain is probably not due so much to direct pressure of the body of the uterus, even when enlarged, upon the sacral nerves, as to the indirect pressure occasioned by the accumulation of hardened fæces in the rectum." The rectal symptoms due to the mechanical pressure of the fundus are unmistakable, but they are clearly localized, are not continuous, and are easily distinguishable from the deep-seated aching pain which results from chronic para- and perimetritis. From these brief statements it seems fair to assume that when a patient states that she has a more or less continuous, aching pain referred to the lower part of the sacrum, but seated deeply within the pelvis, we are justified in assuming that it is directly due to a sub-acute or chronic perimetric inflammatory process in the posterior pelvic fossa, which may, or may not, be associated with a retro-displacement or tumor. In other words, the pain is due principally to the inclusion of sympathetic nerves in the exudates or adhesions, and not to direct pressure on the sacral plexus. This will appear more plausible on studying the effect of such adhesions when situated in the broad ligaments.

In selecting as another fairly typical variety of pelvic pain that due to malignant disease of the uterus, it may seem as if I had made a serious omission in not mentioning laceration of the cervix. But, it must be evident that not only is the cervix a relatively insensitive region, but that laceration is only one link in a pathological chain, so that by itself it cannot be regarded as giving rise to any distinctive symptoms.

The popular idea is that commencing epithelioma of the cervix is almost invariably accompanied by such pain as that described by Rigby, i. e., "A sudden, sharp, burning dart of neuralgic severity, always proceeding from one spot, and sometimes transfixing the whole pelvis.' From what we know of the comparative poverty of the cervical tissue in nerve-filaments, we are forced to question its frequency on anatomical grounds alone; in this we are supported by the clinical evidence. Pain (to quote from Hart and Barbour), "is not present so long as the disease is limited to the cervix; hence, it is of no use as a diagnostic of carcinoma of the cervix in its early stage unless the cellular tissue has been at the same time involved." Hewitt (Diseases of Women, page 127) expresses the same thought when he says: "The pain due to cancer frequently arises from local attacks of peritonitis." In other words, the pain in this case has the same origin as in the former condition, although it is more severe, neuralgic and intermittent. Moreover, the patient is less able to localize it, since it is at one time sacral, at another hypogastric, is sometimes described as "a dull, gnawing pain localized in the pelvis or back," sometimes as "a sharp pain, shooting through to the back, or down the thighs to the knees." The latter points, of course, to direct pressure on the nerve-plexuses by secondary growths.

Carcinoma of the body of the uterus early gives rise to pain, just as does disease of the cervix after it has extended to the body. Sir James Simpson describes it as "slight and intermittent perhaps, at first, but soon reaching a high pitch of intensity, at which it continues for an hour or two, and then gradually subsides." Sarcoma, on the contrary, often occasions remarkably little pain. Can it be because in the case of carcinoma the intra-muscular nerves are more directly affected by the inroads of the disease than occurs in sarcoma of the endometrium? The acute or subacute peritonitis, which invariably attends the progress of carcinoma, readily explains the more severe, continuous and diffuse pains which mark its later stages. Here again, it may be assumed that the pressure of exudates on included nerve-filaments is an important causal factor.

It remains to consider a third common variety of pelvic pain, which is frequently spoken of as "ovarian." It is variously described as "shooting," "darting," "sickening," and is usually located in the left groin or iliac region, is deeply seated, and is frequently associated with referred pains in the sacral and sciatic nerves, and mammary neuralgia, all of which are aggravated at the commencement of the menstrual period. Pain of a peculiarly sharp, lancinating character in the same region has been ascribed to an accompanying affection of the tube, but it presents no peculiarities that could not be explained by localized peritonitis. Now, as is well known, the ovarian region is the seat of various reflex pains associated with disease of the uterus, of the opposite ovary, or even of the rectum, so that locality alone does not give a positive indication of disease of the gland. The true ovarian pain is probably only clearly defined in the case of the enlarged and prolapsed (but non-adherent) organ during defecation or coitus, when it is directly subject to mechanical pressure. But, when diseased ovaries and tubes are buried in adhesions the characteristic pain (if there is any) is masked by that due to the adhesions. This is an extremely important practical point, which has only recently received careful attention. It has been shown by Hegar that cicatricial nodules in the broad ligaments may produce nervous symptoms identical with those referred to chronic oöphoritis, even including the exacerbations at the menstrual periods. If this is true, it seems to be a fair inference, as I have repeatedly urged in discussing this subject from a purely gynecological standpoint, that in the majority of the cases in which we assume that pain is of intra-ovarian origin, it is really due to pressure on the nerve fibres *before* they enter the ovary, and not to pressure on the terminal filaments within the stroma, in consequence of general induration of the tissue. If the pain was principally of centric origin it would not only be constant, but it would be unrelieved by electricity or by the separation of peri-oöphoritic adhesions, since the morbid conditions within the ovary would remain unchanged. We shall have occasion to refer to this again under the head of treatment.

I have alluded very briefly to three varieties of direct pelvic pain, which differ not only in their location, but in their character and mode of occurrence, since they seem to illustrate most clearly the point which I wish to make, viz., that when a patient describes a chronic and more or less continuous pain situated over the sacrum, the hypogastrium or the ovarian region, we are safe in inferring that, although there may exist disease or displacement of one or more of the pelvic viscera, the chief causal factor is the accompanying para- and perimetritis; that is, it is due more to pressure upon, or irritation of, the nerves within the pelvic connective tissue and peritoneum, than to irritation of their terminal filaments within the generative organs, or to the mechanical pressure of the latter upon adjacent nerve-trunks.

Having found that the significance of pain as described by the patient is vague and ill-defined, it remains to be seen if we can locate it more exactly by a physical examination. There are several natural obstacles in the way. In the first place only the cervix uteri is directly accessible to the touch, the rest of the genital tract being felt through the interposed vaginal vault and abdominal wall, with other strata of tissue that lie between. Then, it is a matter of common observation that certain regions are peculiarly sensitive to pressure under conditions which, so far as we know, are perfectly normal. Firm pressure in the anterior, posterior, or either lateral fornix frequently gives rise to considerable pain, which in hyperæsthetic subjects may find forcible expression. Whatever may be the anatomical explanation, this pain evidently originates within the pelvic tissue proper, perhaps in the peritoneum. With the exception of the sensation which a patient describes when pressure is made upon an ovary displaced into Douglas's pouch, I can not recall any variety of pelvic pain which can be reproduced, as it were, by the pressure of the examining finger. Thus, by pressure on a retro-uterine exudate we cause pain, but it is referred rather to the point where the pressure is made ; it is not an exaggeration of the diffused aching pain, of which the woman complains Neither can we be said to reproduce the lancinating pains of malignant disease when we manipulate the cancerous uterus. The cervix itself is, as has been said, comparatively insensitive, and the cases in which direct pressure on the "cicatricial plug" in the angle of a laceration occasions direct and reflex pains are less common than is generally supposed. Exact localization of the pain in this condition is exceedingly difficult, because if the tear has involved the vaginal fornix, the resulting cicatrix in the latter may be quite painful. But, it is the secondary inflammation in the broad ligaments which give rise to the most marked pain, which is often referred to the ovarian regions ; the painful bands, or nodules, when situated at the bases may be located quite distinctly through the lateral fornices. However, there are usually other complications (endometritis, hyperplasia, etc.) which doubtless in themselves cause more or less pain. The practical point is that we may reverse the pathological processes—repair the laceration, cure the endometritis and subinvolution—yet the pains, direct and reflex, persist. In many of these cases it seems as if we could establish a direct connection between their persistence and the persistence of the indurations in the broad ligaments.

The most difficult task is that of trying to establish by the bimanual the connection between pelvic pain, and obscure, ill-defined masses or exudates high up in the broad ligaments, which can often be mapped out only when the patient is placed under the influence of an anæsthetic, and then any estimation of the amount of pain is out of the question. The great difficulty is that not only are these masses not directly accessible to the touch, but even when they consist of tubes and ovaries, these are so fused together and buried in adhesions that their original shape is lost, while there can be little hope of developing any characteristic "ovarian" pain by making pressure upon them. Circumscribed indurations in the broad ligaments are often found at autopsies, so situated that they could not have been detected during life, yet these may have given rise to marked nervous symptoms which were referred to an organ to which the indurations were adjacent. Without multiplying examples, it will be evident that a physical examination affords us but little aid in ascertaining the exact site, or origin of pelvic pain.

Before proceeding to make a few practical deductions, a brief reference may be made to some of the so-called reflex pains of pelvic origin. In my opinion gynecologists show a tendency to exaggerate their frequency. I agree with Dr. Dana ("A Clinical Study of Neuralgias, and of the Origin of Reflex or Transferred Pains," Reprint, page 24), that vertex pain "is often an indication simply of anæmia,"—for out of twenty-five patients who attend my clinic in an afternoon, probably twenty will confess that they have cephalalgia, which can often be explained without reference to their local condition. I can also subscribe to the statement that "pelvic irritations are felt most frequently in the upper and short branches of the lumbar plexus, next perhaps in the intercostal nerves and upper cervical nerves," etc. Reflex arthralgiæ of pelvic origin I have seldom observed. I was not aware that sciatica was rare in connection with ovarian trouble. Mundé states that "a peculiar pain in the hip, somewhat above the ischiatic notch, is frequently indicative of ovarian disease." But, he adds (rather vaguely) that "a blister over the painful spot may relieve the pain and prove it to be merely sciatica."

Reference has already been made to pains in the lumbo-sacral region, radiating down the thighs, which some writers ascribe to direct pressure on the nerves from exudates or displacements of the uterus This cause must certainly be rare. It is more probable that such pains are reflex in character. And this leads us to the question of pains referred to, but not originating in, certain regions within the pelvis itself, the significance and localization of which it is extremely difficult to determine. Of these the most complex is irritation in the vicinity of the ovary from disease of the opposite gland, of the rectum, uterus, or even from the presence of small indurations in the adjacent peritoneum. "Ovarian neuralgia" is a loose and convenient term in this connection. It is only necessary to allude to the sympathy which exists between the urinary and genital tracts in order to explain the interchange of pains between them. In fact, after studying the intricate relations of the pelvic sympathetic nerves we can readily imagine the possible combinations which may exist. Moreover, the conditions are too complicated to be explained by reference to Mr. Hilton's beautiful law. In general, it may be said of these reflex pelvic pains that, while there is no doubt as to their frequency, there is much uncertainty as to their origin. We may refer them to some lesion of the cervix, corpus uteri, or ovary, but positive proof is quite as often absent as it is present. In view of the great richness of the nerve-plexuses around the pelvic organs as compared with the terminal filaments in their substance (compare the cervix, the endometrium, and the ovarian stroma), it seems justifiable to refer most of the reflex, as well as the direct pains, to localized inflammatory processes in the parametric tissues, which may, or may not, be capable of detection. In addition to pain referable to coarse lesions, I need only hint at the subject of functional troubles in order to open up a field for discussion which is comparatively fresh.

The practical deduction which I desire to make relates both to prognosis and to treatment, and may be stated briefly as follows: Since we are seldom able to locate the exact site even of the most characteristic pelvic pain, we should be somewhat guarded in our promises to remove it by modification, or removal of, the supposed cause. Thus, we may repair a lacerated cervix, and yet the pains, direct and referred, are not removed, because we did not discover the true cause; or (and this is far more important), we may extirpate an ovary for the relief of pain apparently located in that organ, yet the same sensations persist. Without dwelling upon the latter theme, which has become rather trite, let me in passing quote from one of the most enlightened and conservative of German gynecologists (Winckel op cit.) who, in commenting upon oöphorectomy when performed for the relief of pain alone, says (following Hegar) that the operation should not be performed "when the broad ligaments are contracted and rigid, and when nodules and indurations are found in their structure, because it is possible that these abnormalities, which cannot be removed by the operation, may be the chief causes of the neurosis." Again, he remarks: "According to the law of eccentric projection toward the periphery, the sensation of pain which is felt in the ovary will persist after the latter has been removed, as we so often observe in other nerves, and in other parts of the body."

While desirous of carefully avoiding any criticism of the value of gynecological operations, I would call attention to the fact that many of those performed for the purpose of ameliorating the symptom *pain*, must continue to be more or less empirical, until we attain such refinement in diagnosis that we are able to refer this pain to a certain definite, circumscribed area in the pelvis. Whether the plan advocated by Dr. Polk (in recent papers read before the New York Obstetrical and the American Gynecological Societies) of separating the adhesions around the displaced uterus and appendages will prove to be of permanent benefit to the patient as regards the relief of pain is still doubtful. There is some reason to think that it may be, although the risks involved in the performance of this operation are scarcely less than those attending removal of the ovaries and tubes. But into this question I do not intend to enter here.

There is a therapeutic agent, the value of which is beginning to be appreciated by gynecologists, and which should be especially interesting to you, because you, of all the specialists, are most familiar with it—I mean the use of electricity. I do not refer to its use as an actual local application to diseased organs and tissues, but to its employment for the relief of pelvic pain. That it has a future in this direction will appear from the testimony of prominent gynecologists as to the sedative effect of galvanism in oöphoralgia, and more recently from that of Apostoli, of Paris, in his paper on the use of the "tension faradic" current in cases of pelvic exudation. The application of electricity in the one instance in the case of recognized adhesions of the appendages, and in the other in inflammation of the perimetric tissue, and the benefit obtained in both instances, may be regarded as a practical clinical argument in favor of the theory of the origin of pelvic pain which I have suggested in this paper.

This is not a new theory, of which I have given a mere outline. I am fully aware of the imperfect manner in which it has been presented, and of the fact that I may be open to the criticism of trying to materialize pain, so to speak. But do not gynecologists practically assume to do this when they direct their treatment to a single gross lesion in one of the organs?

The following is a brief resumé of my deductions:

1. That pelvic pain has its origin more often in the perimetric tissues than in any particular organ, being due to irritation of nerve-trunks rather than nerve-endings.

2. That the reflex, or transferred, pains commonly referred to certain lesions in the pelvic organs, may radiate from inflammatory foci in the peritoneum or connective tissues surrounding those organs.

3. That operations upon, or complete removal of, such diseased organs may fail to remove the pain for the reason stated.

4. That this pain, like other nerve pains, may be sensibly relieved by the proper application of electricity.

ARTICLE III.

ANTITHERMICS IN NEURALGIAS.*

By S. H. BENTON, Brooklyn, N. Y.

I have not prepared a scientific or exhaustive paper for the consideration of the Association to-day, but have simply contented myself with offering a few clinical notes upon a subject that has attracted my attention a good deal of late, and which, I trust, may not be without interest to the Fellows of the Association.

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*Read before the Fifth District Branch of the New York State Association.

A notable feature of former meetings of our Association, has been the hearty discussion of the questions coming before the body for their consideration ; and, presuming that all the Fellows are familiar with the subject matter of the medical journals of the day, and thereby conversant with the history and chemistry of the various antipyretic agents, I will refrain from wearying your patience in that direction, and come at once to my subject, viz. : The analgesic action of antithermics.

The almost general use of antipyrine and antifebrine, to the exclusion of all other agents for the reduction of high temperature, is pretty generally conceded. But the use of these drugs in non-inflammatory pain have not so generally been noted.

My attention was first drawn to the anodyne properties of antipyrine in November of last year.

Mrs. P——, aged twenty-two, nervous temperament, and well nourished, consulted me at my office.

The evening before she was taken with a chill, which was followed during the night with a high fever. I found her temperature, under the tongue, 104°.

Having a few powders of twenty grains each of antipyrine in my office, I gave her two, ordering one to be taken every two hours, and I would see her at her house about noon. On my arrrival she had taken the last one a half hour before. I found her temperature down to 98°, and she was, as she expressed it, feeling splendidly.

A strange feature, in her case, she said, was the absence of pain in her head. I had had Mrs. P—— under treatment for about six months before for a continued pain in the right mastoid region. Sometimes the pain would be more severe than others, but at no time could I get her to acknowledge that pain did not exist.

It had been many years since I had been first annoyed and baffled by what appeared to me at first a simple affair. I could not shake my patient off; she was willing to submit to any form of treatment, as she had been a great sufferer for more than two years. Several good physicians had given her treatment, and all had failed to give her more than temporary relief. It may not be considered good judgment to frequently change remedies, but in this case I resorted to any and every expedient that promised my patient relief. I gave the bromides long and faithfully ; opiates by the mouth and hypodermically ; nitroglycerine and hyoscyamia. Galvanism was faithfully used ; blisters were applied one after the other ; the bowels received due attention ; in fact, it would be difficult for me to say what was not used in this case that had ever been recommended for pain, and yet, notwithstanding all this punishment with drugs, my patient was not relieved of her headache.

After taking the antipyrine, the woman had no headache for three days, after which it re-appeared in a much milder form. I then ordered her to take twenty grains of antipyrine twice a day for three days, which gave her entire freedom from pain for two weeks. I continued this treatment as it was indicated for about three months with a steady improvement. A few days since I saw this lady on the street, and she tells me she has not had any trouble with her head for months.

Soon after this observation of the action of antipyrine in headache, the wife of the writer had an attack of hemicrania, accompanied with a severe brachial neuralgia, from which she had suffered frequently for three or four years. Often the pain in the arm and shoulder was so severe that hypodermics of morphia were used, which, at the best, only gave temporary relief, and the after effects of the opiate was so disagreeable that they were much dreaded.

Before retiring I gave twenty grains of antipyrine, and, after a couple of hours, she became easier, dropped asleep, and had a good night's rest, free from pain. The only observable effect from this dose in the morning was a tired sensation and rather slower pulse than normal.

I have several times repeated this dosage, and always with gratifying results. It is simply a fact that no other remedy has given her so much comfort, when these attacks come upon her, as antipyrine. I cannot say that she has been permanently relieved, but it is true that the interval has been much longer, and she has not complained of the pain in the brachial plexus of nerves for two months.

In February last, I was called to see Mrs. F——, aged forty-one, who had been in poor health for three years. During that time she had been under the care of several excellent practitioners, and, during last year, under treatment by an eminent specialist for multiple neuritis.

I found this lady suffering from pains of, what I diagnosed as, locomotor ataxia, sharp, stabbing pains in the lower extremities, and a steady constant pain in the abdomen, a sensation as though tied about the waist with a cord, and a disagreeable hyperesthesia of the legs, and a complete want of co-ordination. By the use of eight grains of antifebrine given every four hours, the patient declared that she experienced more relief than from any other remedy that she had used.

Unfortunately, this lady did not live long enough to fairly test the utility of this class of remedies in her disease, and I am not sure that one would be justified in continuing the administration of these agents for an indefinite time, as would doubtless be necessary in the pains of locomotor ataxia.

It is said that the action of antifebrine and its analogues have a destructive action on the blood corpuscles, as well as a tendency to produce a fatty condition of the heart. If this be true, the continued use of antifebrine and antipyrine would be pernicious medication.

However, this theory is new, and may be without foundation in fact. It is supposed that all these new antithermics cause a reduction of temperature by their action on the thermic centres of the spinal cord, and in the same way we can doubtless ascribe their analgesic properties.

Mrs. M———, about thirty-eight years of age, of an extremely nervous temperament, has been under my care, occasionally, for nearly three years, for different nervous phenomena.

This lady had little else to live for but to make herself comfortable, with a good deal of money, and a very indulgent husband, but no children. She has good general health, but excitement of any kind will throw her into an attack of hysteria which takes on various forms, and for the relief of which, I have frequently resorted to morphia herpodermically. These attacks were always followed by great precordial distress, and intercostal neuralgia, palpitation of the heart and insomnia.

She was sure to have these spells as often as once in two weeks. For the last two months she had been taking a mixture, containing twenty grains of antipyrine to the teaspoonful, every two or four hours, as required, when she begins to feel nervous.

The result of this treatment has been very satisfactory, as she has not since had an attack of hysteria, none of her old pains, and is entirely relieved of insomnia.

The use of the drug does not seem to cause any disagreeable symptoms, and I am interested to know whether I am going to lose a good paying patient or not.

My experience with antipyrine and antifebrine, as analgesics, is not extensive, but I have used them enough to be convinced that they are of use in many cases.

I had the pleasure of listening to a paper, read by Dr Lloyd, of Brooklyn, at the last meeting of Kings County Medical Association, on the action of antipyretics.

If other experimenters obtain the good results which Dr. Lloyd claims to have noted, of the analgesic action of antifebrine and antipyrine, we will have added to our armamentarium a class of remedies of inestimable worth.

The disagreeable effects from the administration of these medicines, in my cases, have been so infinitesimal that they are not worthy of note.

I give them by the mouth most often, but have given them hypodermically, with satisfaction.

Some writers have said that the subcutaneous method of administration gave great distress at the point of insertion, but this feature I have not observed. It seems to me that, if the needle is inserted deeply and the parts rolled freely under the thumb, immediately after the withdrawal of the syringe, little or no pain will be experienced.

While I have given briefly a few cases in which the administration of antipyretics seemed to have a desirable effect, and demonstrate their superiority over other remedies used, I have given antipyrine and antifebrine in many more cases where I got no observable effect whatever, in painful troubles. It is only fair to give both sides of a question, as there must be an unfavorable as well as a favorable report rendered from the action of all remedies.

It would indeed be a bold man who would declare that a certain medicine would cure every case of a certain class of diseases.

It is very doubtful whether we have any specifics at all. In three cases of sciatica of long standing the patients derived no benefit whatever from antipyrine or antifebrine. In one case the pain seemed to be modified. In six cases of hemicrania at the menstrual period, very little relief was observed, if any. In two cases of facial neuralgia, no benefit was derived from their use. In one case of dysmenorrhœa in a young lady, always lasting two days, no favorable action was observed. In two cases of tabes dorsalis, some comfort was thought to be derived from their use.

While there is no doubt in my mind, from my limited experience with antipyretics as analgesics, that they are of great use, and will grow in favor in the profession, we must not expect too much from them, for they will disappoint us many times, and so will quinine and many other of our standard drugs.

ARTICLE IV.

SOME NOTES ON THE EARLY OPERATION OF LITHOTOMY, AND EARLY LITHOTOMISTS.

By DR. W. H. TAYLOR, Washington, D. C.

During the past two thousand years urinary calculi have been the subject of much study by physicians and surgeons, and during that time so much has been said and written upon the manner of their formation and the mode of getting rid of them when formed, or of, better still, preventing their formation, that the attempt to look into the literature pertaining thereto is quite bewildering.

The first article on the subject of urinary calculi handed me by Dr. Wise of the Army Medical Museum Library (whose kind assistance I here acknowledge) was an Inaugural Dissertation by Carolus Augustus Stockhausen, 1718. The title of this little book or monograph was "Dissertation Inaugeralis Medica Exhibens Calculi, Reum et Vesicæ, Pathologiam Hippocraticam Confirmatum." I did not go much farther into this quaint little book in old Latin than the title page.

Leroy D'Etollés in his "Traité de la Gravelle et du Calcules Urinares," 1869, divides the consideration of the subject into two periods. In the first period the ideas of Hippocrates prevailed, and were upheld by Galen, Celsus, Avicenna, and Actuarius. This he calls the empirical period. The second period he calls the chemical period; dnring this period the chemical constituents and composition of the urine and its deposits were studied. He says Von Helmont first attempted an analysis of the urine; Bellini evaporated to determine the solid constituents of the urine; Willis made analysis for sugar; Boerhave made divers analyses; Brandt discovered phosphorus in the urine; Marcgraff, origin of phosphorus and phosphates in urine; Rouelle, urea, carbonates, and benzoic acid in urine of herbivora; Scheele discovered uric acid and formation of uric acid calculi; Bergman, phosphate of lime and oxalic acid; Wollaston discovered ammonio-magnesian phosphates and cystine calculi; Fourcroy and Vaquelin, urate of ammonia and silica; Berzelius, lactic acid, acetate of ammonia, and the quantative analysis of the urinary constituents; Dr. Marcet discovered xanthic oxide calculus; Wholer and Liebeg made analyses of urine and uric acide; Proust and Prout wrote on urine considered medically and chemically; Cruikshank, wrote the first notice of perpurate of ammonia; Nyster, Lecanne, Becquerel—medical studies upon urine and its alterations; Guibert, Quevenne, Wurzer, Lassaique also wrote chemical studies of the urine; Rayer, Donné, Lebert, Mandel, Vigla—"Etudes Micrographeques;" J. J. Le Roy d'Etolles, Vigla, discovered vibriones.

This history demonstrates that the recognition of the properties of the urine was not effected until after investigations by some of the most distinguished members of the profession, extending over a period of many years.

In regard to the composition of urinary calculi, D'Etolles says in his and his father's collections of 250 stones were:

Of uric acid,	146
Uric acid center surrounded by phosphates,	7
Uric acid center and urate of lime and ammonia shell,	2
Uric acid nucleus, outside oxalates,	1
Oxalate center, outside uric acid,	7
Ammonio-magnesian phosphates, with oxalate center,	4
Oxalate extirely,	16
Mixed ammoniacal magnesian and soda and potassa,	34
Ammoniacal urates and mixtures of other urates,	7
Oxalate of lime and urates alternating,	4
Phosphate of lime and tripple phosphates,	15
Carbonate of lime and magnesia,	3
Of cystine,	6

Holmes, in "System of Surgery," quoting Carter, on the microscopical structure and formation of urinary calculi, says the nucleus is almost invariably formed of globular urates or oxalate of lime.

Hassall, in 1,000 cases of urinary calculi, gives the composition of the stone as follows:

Uric acid,	372
Earthy phosphates,	253
Uric acid oxalate of lime and earthy phosphates in varying layers,	375

The uric acid calculus was first noticed by Scheele in 1776.

In regard to the age at which stone may be developed, Gross, on the urinary organs, says: Langenbeck found a calculus in a male fœtus of six months gestation; Geyer cut a boy of twelve years of age, who had been suffering with stone from birth. It was so large that it had to be broken; the weight was ten ounces: and Stahl found a calculus the size of a peach kernel in an infant three weeks old; Nicolai, Armstrong, Richel, Greding, Nosans, Norris, and some others, estimate that forty per cent. of all cases occur before the tenth year. Gross also states that stone is more common among the poor than the rich; that negroes suffer less than whites, in the proportion of one to six; men more than women, in the proportion of twenty to one.

Calculi vary very much in size, form, and color, the ammonio-magnesian and fusible sometimes attaining a very large size. The uric, oxalic, cystic, xanthic, and fibrous are usually small.

The smallest stones extracted by lithotomy, that I have found recorded, are one case of calculus of five grains extracted by Gross, and the case of Mr. Martineau, mentioned by Gross, where the stone weighed ten grains, the age of the boy was thirteen years.

In color, calculi are found white, gray, drab, fawn, reddish, rose, brown; or, more rarely, bluish, greenish, black, or slate (Gross).

The largest I have found mentioned — Henry Erle, forty-four ounces; Deschamps, fifty-one ounces; Verduc, three pounds; Kesselring, six pounds (Gross).

Dr. John Greenfield, who wrote a book in 1686, entitled, "Dissertatio Lithologica," and another one in the year 1610, called a "Complete Treatise of the Stone and Gravel," gives us the opinion that obtained at that period, as to the etiology, pathology, diagnosis, prognosis, and most approved treatment of stone in the bladder. In speaking of the formation of urinary deposits, he says they are formed just as gravel and stones are formed upon the sea shore, or formed in some peculiar waters which have the property of converting any substance immersed in them into stone. Von Helmont, he says, refers the formation of urinary calculi to a lapidific spirit that disposes the volatile earth of the urine to harden; or to putrefaction—a peculiar ferment, he says.

One opinion advanced was, that stone was produced by a high degree of body heat, but this, says Greenfield, can not be so, for persons of cold dispositions suffer in like manner. Great consideration is given to the idea of a lapidific ferment, and Von Helmont is quoted as saying there is no transmutative principle in nature without a ferment; and also Dr. Collins in System of Anatomy; and Charleton, in his Treatise de Lithiasi, as upholding this theory of a "Spritus Succus" or "Humor Petrificans."

The old writers seem to have been as much interested in ferments, humors, and concoctions as we of a later day are in germs, bacilli, micrococci, etc., and, it occurs to me, as the ferment and spritus lapidis notion seems to have died out, would it not be a good idea to start a hunt for the bacillus lapidis?

Greenfield mentions a case of Ambrose Paré, which he says was operated upon by one of Lawrence Collot's sons in 1566.

The Collots, Greenfield says, were men of great reputation in cutting for stone, and he saw them operate at Amsterdam and Paris. These Collots, fathers and sons, according to all accounts, must have practiced over two hundred years. It is stated that some eight generations of them practiced cutting for stone.

Eating and drinking came in for its share of blame as well in those days as now, but Greenfield says he cut and extracted a stone the size of a filbert from a child eighteen months old, and in this case he could not trace the disease either to heredity or immoderate eating, or drinking of wine or spirits.

One of the causes of stone which Greenfield does not credit, but which he seems to think it as well to mention among other things, is "A conjunction of Saturn with Mercury in the eighth house under which the child was born is subject to stone." This might help in making a diagnosis in some doubtful case ?

About the first accounts we have of operations for stone in the bladder were accounts of the operation as performed after the method of "Apparatus Minor and Lithotomia Celsiana," or cutting on the grip, that is, the stone was pressed against the perineum by a finger or fingers in the rectum, and then cutting through the perineum down on the stone. This method is about as old as any record of medicine or surgical practice, and, according to the views of John Bell, was abandoned on account of its simplicity, the ease with which it was performed, and the rapid recovery after the operation; and he further quotes Heister to substantiate this terrible and unreasonable assertion.

It is hard to understand how a man with the mind and talents of John Bell could take up such a monstrous idea that a simple and effective mode of operating should be given up, for the intricate and cumbersome mode of operating according to the "Apparatus Major" of Lauctus Marianus, where the cut was made through the perineum, striking the membranous portion of the urethra, and then with instruments suddenly and violently dilating the neck of the bladder, regardless of consequences present or to come, the mortality being something fearful; and this he says, according to Heister, with whom he agrees, was done solely and for no other purpose than to make the operation more formidable and impressive, keep the patient longer sick and under treatment, and, as a matter of course, make a larger bill for attendance. The most reasonable and likely cause of the abandonment of operation Celsiana was the many accidents to which the operation was liable, even when performed by the most skillful operators. Hæmorrhage from cut vessels, impotence from divided seminal vesicles, and vesico-rectal fistulæ were among the disasters that attended this seemingly simple operation. To get the stone was the aim and object of the specialist cutting for stone. This object attained, he generally gave himself very little trouble as to the after-treatment of the patient. If he lived, it was all right; if he died, it was the will of the Almighty, and that was an end of it. It goes without saying that almost all operations for stone performed after this manner were followed by death, or, escaping that, a train of unpleasant symptoms, as the rule—not the exception. It must also be borne in mind that at this time the authoritatively expressed opinion of the medical profession was against the use of the knife, if it could possibly be avoided, especially where membranous parts were involved. These considerations no doubt caused members of the profession to seek for some other mode of operative interference where an operation became absolutely necessary, some form of operation that would involve less immediate risk and give better after-results. Out of this necessity for something better was evolved the operation of "Apparatus Major," which was the invention of Joannes Romanus, an Italian, in 1520, and which was written up by Marian—or Marianus Sanctus, and which became from this time the recognized operation of the profession, and held its place as such during a period of two hundred years or more, and was not finally abandoned a hundred years after the introduction of the lateral operation.

The operation of Apparatus.—Major, in spite of the animadversions of John Bell and Heisters, must in skillful hands have given tolerable good results for those days; were it not so, it could not have or would not have been still held to by the profession so long after the better lateral operation had been successfully performed.

It should be remembered by those that are given to run to statistics to prove everything, that there are reasons why the statistics of former times cannot be fairly compared with the statistics of the present day. In the first place, their cases were not picked with a view of giving good statistical results, but quite the contrary. As a general rule, the very worst cases were picked for *them*, patients not wishing to undergo the ordeal of Apparatus Major in the days of no chloroform, unless as a last resort. They put off the evil day until their sufferings were unendurable, and life had no further attractions for them. In this state of body and mind they went to be operated upon; bad cases and likely to give unsatisfactory results.

If we go altogether by statistics, the figures given by John Bell, (vol. 4, Prin. Surg.) are not very encouraging,—La Charité Operations for stone in the bladder:

1725,	20 cut, 5 cured with fistulæ.
1731,	14 cut, 8 died.
1732,	11 cut, 4 died.
1733,	16 cut, 8 died.
1734,	17 cut, 9 died.
1735,	13 cut, 9 died.

It must be remembered, however, that the above cases were all hospital cases, and probably most of them bad cases for any operation. In private practice the results must have been better, or surgeons who made this branch of practice a specialty could hardly have gained the reputation which they had of being successful operators. The Colot family, for instance, that I have already mentioned as being very celebrated operators for stone.

One of the Colots performed successfully the high operation in the year 1475, which is the earliest record of this operation that I have found. This Colot, must have operated later by the Marian method, for Bell says in a pamphlet which was found after his death, that he gave as the secret of his great success in the operation of lithotomy, that he always completely and thoroughly dilated before attempting the extraction of the stone.

This slow and complete dilatation no doubt avoided the danger of laceration by the stone, if a large one, when extracted, and, being effected slowly, avoided also one of the serious consequences of the Marian operation (i. e. the sudden violent dilatation of the neck of the bladders), rupturing vessels, injuring seriously the prostate or even rupturing the bladders.

The advantage of the Apparatus Major, as operated by Colot, or even in the ordinary manner, was that there was no open wound in the bladder, so to speak, and thus the dangers of extravasation of urine, and of septicemia from outside influences was lessened; for although our fathers in the profession did not have such dread of putrefactive germs as we of the present day have, still they were very apprehensive of the bad effects resulting from the admission of air into wounds and into serous cavities and membranous parts.

These considerations to my mind give the only satisfactory explanation as to why the profession held with such tenacity to the Marian operation for so many years after the better lateral operation had been introduced and practiced with such success.

Bell states that the lateral operation was introduced at Paris by Frere Jaques, in the year 1697. Jaques and some of his followers and admirers believed, or professed to believe, that he was inspired, and especially commissioned to go forth and proclaim and teach this mode of operating for the relief of stone in the bladder; but it is highly probable that this was not the first time that medical men had heard of and discussed the merits of this operation, and in fact I find in the *Penny Cyclopædia*, article Lithotomy, which I believe was taken from the old "Encyclopædia Britannica," that the lateral operation for stone, was practiced by Pierre Franco, a surgeon of Tourriers, but that it was never established as a permanent improvement in surgery until Frere Jaques came to Paris to make known this method. I see in the same article that Franco published the earliest account of the high operation in 1556—the operation that Colot had performed in 1475, eighty-one years before. It is quite reasonable to suppose that at or about the same time he published some account of the lateral operation (for though it is not directly so stated, I have reason to believe that the Colots knew of this operation), and reading this account might possibly have inspired Jaques to perform the operation in 1697, one hundred and forty-one years later, or perhaps Frere Jaques' teacher, who was, according to John Bell, an Italian quack named Pauloni, had learned the lateral operation from the writings of Franco or others. Be this as it may, Frere Jaques came to Paris for the purpose of introducing this operation for extracting stone from the bladder and demonstrating the superiority of this over the Marian operation. Through his recommendations, and through the influence which he managed to obtain with Harley, first president of the parliament of Paris, Jaques was permitted to operate at La Charité and afterwards at Hôtel Dieu, but his cases did not turn out well, and he finally left Paris in disgust, but returned again, and after having studied anatomy, and received instructions from Du Verney, the great anatomist, and Fagon, and Felix the king's physician and surgeon, he operated with astonishing success.

By the advice of Felix, he used a grooved staff in place of the plain round staff that he used in his early operations as a guide, though according to the reports of these operations he does not appear to have been much guided by the staff, but merely used it to steady the bladder or give him an idea as to the locality of the stone. To the use of this grooved staff Jaques attributed all his after success in operating, and he gratefully gave Felix credit for this improvement. But this was not the sole cause of his late success; the knowledge of anatomy which he had obtained and his instructions in medicine gave him more confidence in operating, and made him pay more attention to the after-treatment of his patients. When he first operated in Paris, indeed he seems to have given no attention to his patients, after extracting the stone, and when asked what should be done for them, he would say I have relieved them of the stone that was troubling them, now God will cure them and care for them—truly an easy way to get out of an unpleasant job.

It seems strange but, according to Bell, it is a fact that the lateral operation as performed by Frere Jaques, even after the instructions which he had received from the distinguished Du Verney and other prominent members of the profession, with whom he was more or less associated while in Paris, was so little understood in its essential particulars, that after the death of Rau, who somehow managed to discover the points of the operation necessary to insure success, the operation died out and was lost to the profession, so much so, that when Albinius published a biographical sketch of his master Rau, with a full discription, as *he* thought of Rau's manner of operating for stone, it was received by the profession with great satisfaction, and surgeons and anatomists set to work industriously to revive the lost operation of Frere Jaques.

Moraud in Paris, and Cheselden in England, were the ones who finally succeeded in finding out and establising on a lasting foundation the correct method of performing the lateral operation for stone as performed by Frere Jaques.

Moraud, by repeated experiments on the dead subject completely satisfied himself that to operate according to Albinus' description of Rau's operation was to incur the liability of cutting the pudic artery, the accident that killed over fifty per cent. of Jaques' first cases. Hearing that Cheselden operated very successfully, he went over to London and learned his method of operating; this was in the year 1729, twenty-nine years after Jaques had the second time visited Paris, and operated successfully by his improved method; but this operation of 1729 was not the finally perfected operation of Cheselden which was adopted in England in 1731, and which was by the efforts of Moraud adopted later throughout France. The mortality with Cheselden, when operating according to his improved plan in 1731, was three or four per cent.

The exuberant inventive genius of the French seems to have been the principal obstacle to the introduction of the lateral operation as practised by the English.

As soon as it appeared evident that the days of "Apparatus Major" were numbered, LeCat, and others of less knowledge but equal inventive talents, set to work to construct the most complicated instruments that could be thought of, and so violent was the controversy as to the relative merits of these mechanical contrivances that the regular profession became almost demoralized and broken up, and the whole subject had to be authoritatively interdicted by the faculty; but in spite of this interdiction Frere Cosme continued to operate with the favorite instrument of his invention, the Bistourie cachet, and produced fearful havoc among the afflicted, his death-rate rivaling the death-rate of Apparatus Major and the first efforts of Frere Jaques combined.

LeCat, a man of real talent, was very much injured by entering into this discussion, and by his endeavor to make a kind of combined operation which was to include the principal features of Apparatus Major and English lateral method of operating.

The cases operated upon at La Charité during the ten years ending 1735, the statistics of which I have given, may in all probability have been operated upon according to this modified plan of LeCat, just mentioned ; if so it is no wonder he was injured by recommending such an operation. It seems that the Marian operation was not finally abandoned in France until about 1750 or 1755, about two hundred years after Pierre Franco had performed the lateral operation in that country. This may seem strange, but the fact is that neither Franco, Jaques, nor any of the operators up to the time of Cheselden knew just upon what the success or failure of the lateral operation depended. Cheselden was really the first to study out and fully understand the lateral operation for stone, and how it should be performed.

Jaques, and Rau after him, were sharp enough to discover that when they operated in a particular manner their patients got well, but it does not appear that either of them examined any of their fatal cases, post-mortem, or, if they did, they evidently did not discover the cause of death.

Mery, it is true, examined a number of Jaque's cases, post-mortem, in his presence, but so entirely failed to convince him that the operation was the immediate cause of death that he publicly declared that he believed the hospital people were so opposed to his operation that they had poisoned the patients to throw discredit upon it.

John Bell abuses Rau for not revealing the secret of the operation, and quotes Heister as authority for the statement that he pretended to teach the operation, but out of avarice kept it a secret from all, even his favorite pupil and assistant, Albinus, for fear of a rival in the operation, and that Albinus never even attempted to show on the dead subject what the operation was, or to show from the abdominal side just where the bladder was opened. That is just all there is of it. Rau never demonstrated what the operation was because he did not know *exactly* himself. If his patients got well it was all right ; if they died and he examined any of them, post-mortem, it is questionable if he ever satisfied himself as to the cause of death.

It was only after sad experience and after seeing his patients one after another die in great agony a bout the fifth day after the operation, that Cheselden became convinced that the bladder in cutting for stone should not be opened back of the prostate in the body, but through the prostate in the neck, and that this was one of the main points determining the success or failure of the operation.

Greenfield in "A Complete Treatise on Stone and Gravel" (London 1610), gives a discription of the operation of Franco, or Petrus Francus, as he calls him, who he says was the originator of the high operation (though this is not correct). The operation of Franco as he describes it must have been the lateral operation, or very like it. He says his plan was to cut and let the urine drain off, and if the stone appeared then in the wound he would take it out; but if it did not appear he would let the wound remain open, and drain off the urine for some days, and then if the stone appeared he would take it away. If it did not appear, he would pass his finger into the rectum and press the stone into the wound and if it was too large to extract readily, he always let it remain for some time, and when the patient had recovered of the wound, he would break up the stone and extract it.

This mode of operating, practiced by Franco, would probably, if antiseptic precautions were taken and the operation completed at once, answer well in certain cases—better it may be than Allerton's modification of Apparatus Major and lithotrity, as recommended by Erichsen in "Science and Art Surgery," Am. Ed. from 2d Lond. Ed. 1860, or than a combination of Allerton's and Bigelow's operation claimed as an invention by M. Shuppert, M.D.—Article on Methods of Operating for Stone in the Bladders, vol. iv., Nos. 1, 2, 3 and 4, *Jour. Am. Med. Ass'n.*

Franco must have been known as an operator for stone as early as 1550. Greenfield says Fabricius Heldamus spoke of him as a distinguished lithotomist and an excellent operator. Heldamus had gained a reputation as a physician and surgeon before the year 1586. Franco's ordinary mode of operating was to cut on a staff grooved on the convex, and if the stone was too large to remove without cutting into the membranous part of the bladder he broke it up, either with the hamulus, or with an instrument with teeth, invented for that purpose, and he was particular to drain off the urine by a canula kept in the bladder.

In regard to the dexterity acquired by some of the early lithotomists, Moraud says he has seen Cheselden extract the stone in twenty-four seconds, and that it seldom took him more than one minute when there was but one stone.

Lester, in speaking of Frere Jaques operations, says he saw him cut nine patients and extract the stone in three-quarters of an hour (45 min.) which gives five minutes to each patient. This beats the record of Sir Henry Thompson, of crushing and washing out a stone in from six to nine minutes.

In the days of no chloroform or other anæsthetic, to get through an operation as quickly as possible was quite an object, and even at the present time it is not well to keep a patient under chloroform or ether any longer than is absolutely necessary.

The Marian operation must have had more to recommend it than, as Bell intimates, its complicated apparatus and intricacy of details, else we would not see it coming up now and again under the form of a new invention or modification. Allerton for instance, does not claim that his operation for stone is anything more than the old Marian operation, with the difference of dilatation being effected with his objectionable instrument and not being carried to the extent it was in that operation.

Allerton says that the lateral operation is so fatal that surgeons of the most skill and experience will not operate if they can manage to get out of it; that the most reliable statistics show a mortality of twenty-five or thirty per cent., whereas the statistics of the operation as practiced by Manzoni and Joseph Bresciani de Borsa, which is almost identical with his (Allerton's) operation shows a mortality of only one per cent.

Allerton does not state, in giving these statistics, that the cases were all children and very young people, that usually recover no matter what sort of an operation is performed upon them—lateral, major, minor, or any other.

SELECTIONS

THE PROGNOSIS OF CÆSAREAN OPERATIONS.* By W. T. Lusk, M.D., Professor of Obstetrics in Bellevue Hospital Medical College, New York.

If it were proposed to a physician to beat out the brains of a new-born living infant with the view to diminish the perils of the puerperal period, the proposition would certainly be rejected as too horrible for consideration, even though the physician was convinced that the theoretical grounds for the recommendation were correct. Yet there is a disposition to treat any hesitation to destroy the unborn child in the maternal interest as pure sentimentality.

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*Read in the Section of Obstetrics, International Medical Congress, September 6, 1887.

I must confess that I have never felt satisfied with this bit of curiosity, and I am sure that for the bulk of the medical profession nothing can be more welcome than to learn that there is statistical evidence sufficient to warrant us in a very considerable proportion of cases to decline, equally in the interest of the mother and the child, to lend our aid or countenance to the sacrificial operations of midwifery. By statistical evidence I do not mean bare records of deaths and recoveries, but a careful study of recorded cases, deductions from which are rational, and furnish the safest guide to scientific practice. It has been objected to the old statistics that they contained an undue proportion of favorable cases, and it may be a fact that a large number which ended fatally were never recorded; but on the other hand, some years ago I took occasion to analyze the histories of cases upon the death list, contained in the collection published in 1832 by Michaelis. They all belonged to the nineteenth century, and have been included in all the statistical tables that have since been published. In thirty-four the histories given were tolerably explicit. In one of the instances the operation was performed upon a corpse, and in the others upon dying women, or under circumstances which reduced the chances of success to a slender possibility. No wonder, under such conditions, Mauriceau, speaking of the Cæsarean section, declared, "If it is true that any women have escaped, it was the work of a miracle, or the express wish of God, who, if he wills it, is able to raise the dead, as he did Lazarus."

But the operation is not of necessity a fatal one. As regards the Cæsarean section in this country, it is presumable that few, if any cases have escaped Harris's vigilant inquiries. In a personal communication from him, I learn that up to date there have been 153 cases with 56 recoveries. This is undoubtedly a most discouraging report, but the percentage of recoveries should certainly teach us that the operation is capable of betterment by human ingenuity. It was until lately too much the fashion to quote the statement of Baudon, made in 1873, that there had not been a successful case in Paris in eighty years, and to ignore the results of individual operators. Thus Winckel, Sr., practicing in a poor community where osteomalacia prevailed, in 15 operations saved 7 mothers and 8 children; Hœbicke operated 16 times with 11 recoveries; Maslieurat Lagemard operated six times, and all his patients recovered. Découéne, of Courtrae, operated six times, and saved five women and four children, and Harris has been able to report 19 cases in Louisiana with 14 recoveries. In all these instances the operations were performed not in infected hospitals, but in the pure air of the country. Again, Dufeilthay's statistics showed 81 per cent. of recoveries, where the operation was performed before the mother became exhausted, and Harris has shown that under similar conditions in America, 21 out of 28 patients recovered.

These facts have, indeed, become sufficiently familiar, but they have been so persistently ignored by the anti-Cæsarean school in its polemic, that it becomes necessary to reiterate them in the rebuttal evidence offered by Cæsarean defenders. They show that the old operation when performed under fitting conditions, in a healthy locality, and with sufficient skill, has had a fair measure of success. Barnes claims for the alternative operation of craniotomy in extreme degrees of pelvic deformity precisely the same pre-requisites. "Obviously," he says, "we cannot recognize fatal cases of craniotomy in extreme deformity, unless the operation was begun under selected circumstances—that is, before exhaustion had set in, and conducted with due skill and after approved methods."

But in spite of the testimony favorable to prompt action, Harris has recently reported that during the last seven years in this country, in 27 operations only 5 women and 10 children have been saved, and the enemies of the Cæsarean section have pointed to these results as showing that it alone of all the departments of abdominal surgery has profited nothing by modern science. Without question it is, however, the preaching of those, who go around crying woe, woe! that is responsible for this melancholy decline. The operation ought never to be regarded as one of last resort. If the patient is dying, it is the duty of the physician to secure euthanasia, and not to make the death-bed the field for surgical display.

In marked contrast with the poor success attained in late years by operators in this country, Harris (Harris: Cattle-Horn Lacerations of the Abdomen and Uterus in Pregnant Women. *Am. Jour. Obst.*, July, 1887) has recently reported with gentle irony the histories of nine women in advanced pregnancy, whose wombs were ripped by the horns of infuriated cattle, with the survival of five women and four children, and of six cases of self-inflicted Cæsarean section, in five of which the women recovered.

I have spoken so far of the old operation, meaning thereby cases in which nothing was done, or inadequate measures were employed to prevent the subsequent gaping of the uterine incision. Under such circumstances in favorable cases closure was effected usually by an adhesive inflammation, which united the uterine to the abdominal walls. To this were due the favorable results when the Cæsarean section was repeated upon the same subject (8 deaths in 119 operations, Lundgren), as the operation then became virtually an extra-peritoneal one. According to Sänger, only one instance is known where complete union took place throughout the entire length and thickness of the wound. Sometimes the cicatrical tissue extended the entire length, but not through the thickness of the incision, and was of a callous consistency; in others, the line of union was at points of extreme tenuity, disposing to hernial protrusions, and in subsequent pregnancies to the production of rupture; while in others again, union took place at intervals only with the formation of fistulous openings, communicating either with the abdominal walls, or with circumscribed cavities within the abdominal enclosure.

Strangely enough, even after these facts had become familiar, it was not immediately obvious that better union could be secured, and the dangers of the operation lessened by the employment of a proper suture. The belief prevailed that sutures were a source of irritation, and that the alternating contractions and relaxations of the uterus during the early days of the puerperal period practically destroyed their utility. So strong, indeed, are old prejudices that Porro's proposition to avoid the risks arising from gaping of the uterine wound by the removal of the entire uterus has very recently been regarded not as a clumsy device, but as a surgical necessity. Indeed, it has been in this country chiefly, where tradition exerts a feeble influence, that, prior to the appearance of Sänger's exhaustive monograph, the suture has had anything like a fair trial; and Sänger strongly reinforced his argument in favor of its employment by the successes obtained through its agency by Polin, Brickell, Jenks, and Lundgren. Of these Brickell is specially deserving of honor. For twenty years, in spite of sneers and ridicule, he insisted on the employment of the suture, and foresaw that the suture was destined to remove the Cæsarean section from the category of happy-go-lucky expedients to the level of a legitimate surgical procedure.

But however others may have contributed to the foundations, it has been the glory of Sänger to crown the work by indicating with precision the manner in which the vast experience acquired of recent years in abdominal surgery could be made available for the rehabilitation of the Cæsarean section. Leopold, the first to test the improved method, has now operated 13 times with 12 recoveries, and in Credé's clinic there have been 7 operations (4 by Sänger) with no deaths. These figures represent the possibility of the operation. In Leopold's fatal case the cervical dilatation had been prevented by old cicatrices. Cæsarean section was performed after twenty-seven hours of hard labor. The lower uterine segment was bruised, inflamed, and œdematous from long-continued head pressure. Death was due to peritonitis. In similar cases Leopold now advocates the removal of the injured organ by the method of Porro. (This plan he has since followed in a case where the uterus was infected at the time of the operation. The woman recovered. Leopold: "Arch. f. Gynäk.," vol. xxviii., p. 120.

These results sustain the dictum of Sänger, that the Cæsarean section, supplemented by deep and symperitoneal sutures, is devoid of danger if performed before the exhaustion of the patient—before the occurrence of infection—and in consonance with the principles of antiseptic surgery.

In Credé's last report (Mittheilung aus der Geburtshülflichen klinik, in Leipzig, "Arch. f. Gynäk.," vol. xxx., p. 328), the number of patients operated upon by Sänger's method was increased to 50, with 36 recoveries, and 14 deaths. Since then there have been published 6 more cases, viz.: those of Döderlein, Perret, P. Bar, Lusk, Parrish, and Ohage. Of these the first four ended in recovery, and the last two in death. The total mortality thus far is $28\frac{4}{7}$ per cent.; but America furnishes seven cases, with but one recovery. If we deduct these, the mortality falls to $20\frac{20}{49}$ per cent. It is, therefore, particularly becoming in us, as chief contributors to the death-rate, to inquire into the causes and complications that have led to the fatal endings. The results of such an investigation are very interesting.

1. GARRIGUES. *Am. Jour. Obst. Case of lumbosacral kyphotic pelvis.* The patient had caries of the sacrum and lower vertebral, with synostosis of left iliac joint, contraction of left knee, and talipes equinus. She had had hæmoptysis, and was suffering from cystitis and vaginitis. For a month previous to operation the patient rarely left her bed, and suffered from nearly constant vomiting, and had to be nourished from time to time by enemata. Owing to ante-partum hemorrhage, she was, at the time of the Cæsarean section, weak and suffering, pulse 124, lips blue, and with cold hands and face. It was not thought by those in attendance that the patient could survive any operation. She lived 48 hours.

2. BEUMER. "Arch. f. Gynäk.," vol. xx., p. 409. *Cervical myoma.* Patient had cystitis and pyelo-nephritis. Both kidneys were nearly destroyed. Death occurred in 36 hours.

3. KRUKENBURG. "Arch. f. Gynäk.," vol. xxviii., p. 411. *Conjugata vera estimated at less than two and a half inches.* Patient, a dwarf, three and a half feet high, rachitic and scorbutic. She had been twenty-five and a half hours in labor, and was extremely feeble at the time of the operation. After the latter, hemorrhage due to complete atony of the uterus occurred. Death from collapse. Fasola, in a similar case of inertia, associated with grave internal hemorrhage following upon the performance of Sänger's operation, amputated the uterus. The mother recovered. (Fasola: *Gaz. delle Cliniche*, Nos. 24 and 25, 1886.)

In the following cases death resulted from exhaustion or septic infection due to extreme prolongation of labor. In all the indications for Cæsarean section were indisputable at the outset. They in no sense illustrate the dangers of the operation, but rather the folly of postponing action until the seeds of death have been sown.

4. MÜNSTER. *Centralblatt*, 1886, p. 82. *Pelvic tumor.* Patient, after four days of labor, was conveyed to Königsberg, a railway journey of seven hours. Obstruction due to large pelvic tumor. Operation performed after four days of labor, twelve hours after rupture of membranes. Escape of fetid gas. Endometritis septica before operation. Death in four days.

5. J. R. WEIST. *Med. Rec.*, March 13, 1886, p. 301. *Retrocervical myoma.* Operation four weeks after rupture of membranes, and nine days after labor had begun. Death in twenty-four hours.

6. DRYSDALE *vide* HARRIS. *Amer. Jour. Med. Sci.*, October, 1885. *Retrocervical myoma.* Labor lasted two weeks. Septic infection at time of operation. Child putrid. Death in twenty-six hours.

7. BREISKY.

Finally there remain a limited number of cases in which death was due to some defect in the antiseptic precautions.

8. EHRENDORFER. "Arch. f. Gynäk.," vol. xxv. p. 128. *Fibroma of fascia, invading pelvic cavity.* Patient had had three living children, membranes ruptured at 3 A. M., on September 28th. At 4 P. M., on the 29th inst., Cæsarean section; escape of meconicum into abdominal cavity. Ligature around left tube to prevent hemorrhage. Death in five days, from peritonitis purulenta ichorosa. Uterine cavity contained strips of decidua infiltrated with pus, with necrosis of tissue between the sutures.

9. JEWETT. *N. Y. Med. Jour.*, August 29, 1885. *Uterine Cancer.* Profuse hemorrhages in latter part of pregnancy, constant pain, no sleep. Death from septic peritonitis forty-four hours after operation, infection probably due to case of erysipelas at the time in the hospital.

10. OHAGE. Report received from Dr. Harris. *Conjugata vera under two inches.* Rachitic dwarf, labor induced; operation twelve hours later, when os was the size of quarter of a dollar. Death on fifth day from diphtheritic endometritis.

In addition to the above, Credé reports three cases communicated to him by letter, one operated upon by Neugebauer-Bieganski, of Warsaw, one by Bieganski, of Warsaw, and one by Morisani, of Naples, where the operation, though performed under apparently favorable conditions, was followed by death due to infection.

The more these cases are studied the more evident it becomes that the deaths were the results of preventable causes, except in instances where the operation was fatally handicapped by antecedent disease; indeed, the prognosis of the modified Cæsarean section appears to be favorable whenever performed with due surgical skill and under circumstances which admit of surgical success.

As regards the saving of infant life, the results have been hardly less gratifying. In times past the anti-Cæsarean school has furnished statistical records showing a heavy infantile mortality associated with the operation, but in the fifty-six cases in which the Sänger precautions were employed, only six children were born dead, and of these four were putrid at the time the operation was performed.

In Germany proper there have been thirty-five operations, with the recovery of thirty-one women, and the saving of thirty-three children. In this country, in seven operations, there have been saved one woman and three children. In view of this unflattering discrepancy, it seems well worth our while to inquire in what way we can so improve our methods that our results may no longer give to the modern Cæsarean section a sinister aspect not justly its due.

Now, in the first place, progress is not to be expected on our part, until our professional men, as a body, make themselves familiar with the import of the various forms of pelvic obstructions, and learn to discriminate, during pregnancy, the conditions which indicate, respectively, the induction of premature labor, the Cæsarean operation, craniotomy, or a Fabian policy. Of course, the discussion of these and similar questions is not germane to my subject, but it may not be out of the way to note that craniotomy is not available in cancerous degeneration of the lower uterine segment and vagina, in obstructions due to fibroids and other tumors occupying the pelvic cavity, and in cases where the conjugate diameter measures less than two and a half inches. I do not pretend to claim that craniotomy furnishes no good results in these cases, but that the operator takes a gambler's risk, with the odds heavily against him. Even when the conjugate measures from two and a half to three inches, the Cæsarean section still seems to me to be the preferable choice, as with those dimensions, unless the transverse diameter happens at the same time to be spacious, a most exceptional occurrence, craniotomy is extremely hazardous, requiring a complete obstetrical armament, and great experience on the part of the operator to enable him to avoid inflicting serious, if not fatal, injury to the tissues between the child's head and the pelvic brim.

To be sure, Barnes asserts that "craniotomy done under fair conditions, such as are postulated for the Cæsarean section—that is, done at a chosen time with due skill, does not involve any natural mortality," but a careful perusal of all his subsequent remarks shows that the statement was intended to apply to women with minor degrees of contracted pelvis only. (Barnes [*British Gynecological Journal;* part viii., 1866, p. 315] argues that by sacrificing the living child at term, the woman's life is saved, and, subsequently, by the employment of premature labor, she becomes the mother of living children. But with less than three inches in the conjugate, even premature labor affords but little encouragement, so far as to hope for the preservation of the child.) Merkel ("Arch. f. Gynäk.," vol. xxi., p. 461) reports 100 cases of craniotomy from the Leipsic Clinic, with eight deaths. He congratulates the clinic upon results never obtained elsewhere. Thorn (Thorn: "Arch. f. Gynäk.," vol. xxiv., p. 437) reports eighty cases from the Halle Clinic, with ten deaths. How simple these cases were, for the most part, is shown by the fact that in Merkel's list of sixty-eight multiparæ forty-nine, and in Thom's list of fifty-six multiparæ thirty-nine, had previously given birth to living children.

Unquestionably defective diagnosis has so far in this country proved the most serious bar to progress in obstetric surgery. Every year I witness cases where horrible mutilations, due to ineffective attempts at delivery, have been inflicted before it was suspected that the obstruction was insurmountable. American women have, in times past, enjoyed so large a degree of immunity from the more pronounced forms of dystocia, that our practitioners are too much disposed to regard Dame Nature as invariably kind to the parturient woman. Very few, indeed, attempt to realize the pernicious influence of spinal curvatures and hip-disease upon the pelvic contours, or try to acquire the art of pelvimetry, and yet these belong to the A B C of practice. A knowledge of them should constitute the difference between an educated physician and an experienced monthly nurse. This is delicate ground, and I do not refer to it in any carping spirit. I know that the lack of interest exhibited is due to a sense of the remoteness of the contingencies which will render such knowledge available. But more artificial modes of life, the pressure of population in large cities, and an unprecedented immigration are already working among us a perceptible increase in the causes of difficult labor, and with the departure of the old easy-going order of things comes the need of better equipment, and an increased sense of responsibility on the part of medical attendants.

It is of good omen that Parish, armed with the weapons furnished by Harris's statistics, presented to the members of the American Gynecological Society, a year ago, a most eloquent appeal to give this subject their earnest thought and attention. I add my voice in the same direction from a sense of duty, and trust the time is at hand when all our leaders will lend their aid and advocacy to the work.

It is not to be expected that in every case, after a correct diagnosis has been made, and the necessity of the Cæsarean section has been recognized, that the practitioner should undertake the operation himself. It is not desirable that the Cæsarean section should be performed without assistants, without proper instruments, or without preceding orderly arrangements. Nor ought the operator to trust to the inspiration of the moment, but should possess at least a theoretical familiarity with every detail that experience has shown to contribute to the patient's safety. If the physician is timid, or is not so situated that he can operate under advantageous conditions, it will generally be easy, where the diagnosis has been made prior to the advent of labor, for him to entrust the case to an expert in abdominal surgery.

We have many laparotomists operating with brilliant results. They are not all upon the seaboard or in large cities, but are so scattered as to form centres accessible to extensive areas. They possess the experience and needful preparation. With the general co-operation of our professional men, there is no reason why they should not rival the successes won at Leipsic and Dresden. They need, however, to open their eyes to the work of our neighbors, and to equip themselves for the special field of saving infant life. Mr. Tait has doubtless accomplished great good in teaching surgical means for the relief of tubo-ovarian disease, but it would be an added glory to our laparotomists, if they would, on occasion, round out their work of sterilizing women by conferring upon them the blessings of maternity.

Spontaneous Expulsion of Uterine Fibro-Myomata After Miscarriage; Also Observations Upon the Treatment Which Should Follow Miscarriage. By Andrew F. Currier, M.D., of New York.

Spontaneous expulsion of uterine polypi is not an occurrence which can be considered common. If nature would only adopt such a method for getting rid of these offending and offensive bodies with a reasonable degree of regularity, it would relieve both patients and physicians of a great deal of misery and anxiety. Quite a number of cases are recorded in which some tumors have disappeared, presumably by resorption, the names of Emmet, Cazeaux, Sedgewick, Scanzoni, Gussman, Schroder, and Gusserow being identified with such cases. (See Gusserow, *Neubildungen des Uterus*, p. 53.) But such reports must always excite more or less scepticism, for, whatever be the veracity of the reporter, or his skill as a diagnostician,—and there can be no question as to either in the case of all the names which have been quoted,—there must always be an element of uncertainty if the tumor itself is not appreciated by the naked eye as well as by the intelligent fingers.

Matthew Duncan reports a case (*Edinb. Med. Jour.*, 1867) which came under his observation, in which the patient had an uterine fibroid tumor as large as a child's head, which disappeared so suddenly that he thought it must have been enucleated spontaneously, and expelled without being particularly observed by any of the patient's attendants. This seems to me a very reasonable suggestion, and, in the light of my experience with the case which is here recorded, may afford an explanation for more or fewer of the sudden disappearances and resorptions which are reported.

The essential cause of the phenomena which are included in the subject under consideration must consist in a necrotic process, which varies as to degree and character, together with the contractile force of the uterus. That process may involve either suppuration and gangrene, or the tissues of the tumor may gradually be deprived of their nutriment, the connective tissue becoming more condensed and firm, and the deposit of mineral salts more abundant, until, in either case, the presence of violent uterine contractions, by whatever cause excited, becomes sufficient to break the connection with the base of attachment, and the offending body is cast forth from the organ and from the organism.

To the causes which lead up to this process, as well as those which give rise to the development of such growths, I do not propose to pay any attention at the present time, with the exception of the one cause of pregnancy. The field is too large to be included, in all its bearings, within the limits which I have proposed for myself. That pregnancy has a very decided influence in producing spontaneous expulsion is sufficiently recognized by several of the systematic writers upon obstetrics and gynæcology. Thus Barnes ("Obstetrical Operations," 3d ed., p. 287) says: "In not a few instances a myoma has been spontaneously expelled some days or weeks after labor. During labor a process of loosening of the attachments favoring enucleation takes place," etc. Gusserow also (op. cit., pp. 53 *et seq.*) quotes a number of cases in which this event occurred. It is not difficult to understand why this event should occur: given a fibroid tumor within the cavity of the uterus, any force which tends to produce congestion in the organ will have the same effect upon the neoplasm which is nourished by it. Hence it is that unimpregnated women having fibroid polypi of the uterus suffer from menorrhagia at each recurring menstrual epoch with its attendant phenomena of congestion.* Such a growth within the uterus, with the hæmorrhages and profuse grandular discharges which usually accompany it, is, in most cases, an effective bar to pregnancy, and fortunately so, but the barrier is not insuperable, and, conception having occured, the great diversion of nutrient forces to the uterus must be shared by its parasite.

Thus, while the uterus enlarges and becomes more capacious, the neoplysm enlarges also, and the location of the latter, with reference to the fœtus, will determine, to a great degree, whether the gestation will be complete or not. If the tumor is below the fœtus, and developes in the direction of the vagina, it may even fill the pelvic cavity without interfering with fœtal development. (See case reported by P. F. Mundé, *Am. Jour. Obst.*, Feb., 1885, p. 188.) If, on the other hand, it developes above the fœtus, in which case it will usually have a fundal attachment, it will be almost certain to encroach upon the fœtal envelopes, and sooner or later cause the premature discharge of the fœtus; in other words, as the fœtus enlarges, the tumor enlarges also, whether *pari passu* or not is not altogether material, and when the demands of the fœtus for nourishment exceed those of the tumor in point of imperiousness retrograde changes in the latter must take place; when the sum of these changes, manifested by diminished cohesive union with the parent organ, plus the influence of the tumor as a foreign body, reaches the limit of tolerance, the inevitable result must be a degree of irritation sufficient to excite uterine contractions and the extrusion of the fœtus and its coverings. If to this excitation is superadded the irritation which may be produced by a powerful oxytocic, for example, ergot or a profound mental impression, additional uterine contractions may be excited, and these may be sufficient to wrench the polypus from its base, and also expel it from the uterus and vagina.† This theory, in my opinion is sufficient to account for the spontaneous expulsion of uterine fibro-myomatous polypi, and is the only one which enables me to account for the phenomena in the case which is here presented.

Mrs. H. is a native of France, and is twenty-one and one-half years of age. She had good health until she was nineteen years of age, and then suffered with pulmonary hæmorrhage during a period of six months. Her last menstruation ended December 24, 1886. Previous to that time she stated that her menses had been regular and normal,

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*The same phenomena of congestion and enlargement are equally noticeable with extra-uterine fibroid tumors during menstruation, as I have freuently had opportunity to observe. See also in this connection a valuable paper by Dr. John Williams, *Lancet*, I., 1880, pp, 764, 873, entitled, "On Some Periodical Changes which Occur in Fibroid Tumors of the Uterus, and their Significance."

†Danyau and Duncan each report a case in which partial enucleation was effected, which was easily completed by surgical means. See Barnes, op. cit., p. 287.

although they usually lasted eight days. A few days after the termination of her last period she fell, and suffered from uterine hæmorrhage for the subsequent twelve days. Until her miscarriage occurred she was at no time aware that she was pregnant, nor was she conscious of the existence of an intra-uterine growth. Her husband is also a native of France, and thirty years of age. He had a pulmonary hæmorrhage when twenty years of age, and again when twenty-five. No account of any venereal or other sickness could be obtained.

The patient's history from the time of conception until May 10th was uneventful; utero-gestation had, therefore, reached the end of the fourth month. Uterine hæmorrhage, together with rupture of the fœtal membranes, began May 10th, and continued without interruption until May 15th. On May 14th and 15th she suffered great pain, and on the 16th the fœtus was expelled. She was attended during this period by my friend, Dr. John B. Isham, who at first administered a small dose of Squibb's Fluid Extract of Ergot. It caused so much nausea, however, that its use was discontinued. After the fœtus and membranes were discharged the uterus still remained very large and hard, its upper limit being at the level of the umbilicus.

These facts being related to me by Dr. Isham, I suggested as a probable diagnosis either a fibroid tumor or a twin pregnancy, and advised exploration and curetting of the uterus. Experience has taught me the inestimable value of this plan of procedure, and I always adopt it after miscarriage has occurred, unless perfectly satisfied that the uterus has been entirely evacuated. I was invited to see the patient in consultation and appointed the afternoon of the following day. In the meantime the patient was informed by her husband of the appointment, and the necessity for some kind of an operation. The impression produced upon her was so profound that uterine pains came on a few hours previous to the appointed visit, and a tumor was expelled, the act being accompanied with the loss of several ounces of blood. I found the patient weak, anæmic, and hysterical, and still suffering from slight metrorrhagia.

She was placed upon a table in Sims's position, and A. S. Hunter's self-retaining speculum was adjusted*. The cervix was large, soft, and patulous at the *os externum*, but closed at the *os internum*. Simpson's sound was passed, in a normal direction, to the four and a-half inch notch. The vagina was irrigated with very hot, weakly carbolized water, the uterine canal was rapidly dilated with gum-elastic bougies, and then an applicator wrapped in cotton-wool, the latter being subsequently saturated with a ten per cent. solution of muriate of cocaine, was passed to the *fundus uteri* and allowed to remain in position five minutes. The effect of the cocaine was not only to anæsthetize the uterine mucous membrane *but also to stop the hæmorrhage from it;* and I desire to emphasize the value of cocaine for this purpose, which has not been recorded by any other writer, to my knowledge. The entire mucous membrane of the uterine canal was then carefully scraped with the dull curette, a quantity of *detritus* being removed, and pure carbolic acid was applied to the surface thus scraped. This was followed by the adjustment of a firm vaginal tampon of carbolized non-absorbent cotton, after which the patient was placed in her bed.

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*This instrument is a most excellent one, and is highly recommended. In cases in which ether is not required it enables one to operate without the necessity of assistants, unless hæmorrhage should be profuse.

No hæmorrhage followed the operation at any time, but on the following day her temperature was high, and her pulse rapid for a few hours. This did not surprise me in view of her weak and anæmic condition, and her violent hysterical demonstrations at the time of the operation. Convalescence quickly followed, but with decided manifestations of renal trouble, Dr. Isham reporting that her urine contained four per cent. of albumen two weeks after the operation. Her renal trouble may have been caused by the pressure of the enlarged uterus upon the ureters. Cases of albuminuria and Bright's disease from similar conditions are recorded by Hubert *(Bull de la Soc. Anat.*, 1873, p. 870), and quoted by Gusserow (op. cit., p. 48).*

The details of this case, which may seem tedious, have been given because they illustrate the value of the method of operation adopted. The latter is totally opposed to the old-fashioned so-called expectant plan of treatment, which must have been inspired either by timidity or ignorance, or both. It is an outgrowth of the modern antiseptic theory, for it is unnecessary to say that such an operation should only be done with antiseptic precautions. Inflammation of the cellular tissue or the peritoneum is quite unlikely to follow it. Septic absorption will be prevented by the carbolic acid which is used, and it is also unnecessary to say that this must be used with caution and dexterity, not only to prevent toxic effects, but also in such a way as not to cauterize anything but the internal surface of the womb. Very little force is required or justifiable in performing the operation, and should peritonitis or cellulitis follow it, the presumption would be that it was caused by unnecessary violence. The dull curette acts simply as a prolonged finger and finger-nail, and if it is as clean as it should be, it is much less likely than these to be a means of infection to either patient or physician.

The fibro-myoma in the case under consideration was nearly four inches long, and irregularly wedge-shaped. The apex of the wedge was rough and irregular, as if it had been torn violently from its attachment. The tissue of the body of the tumor was pale, dense and hard; from its base projected two spherical masses about one and a half inches in diameter, and just above them was a third, which was somewhat smaller. These spheres or lobes were covered with mucous membrane, and, on section, showed a soft, broken-down tissue of a dark-red color. The odor of decomposition from these masses was very offensive, their structure being distinctly different from that of the hard, almost stone-like tissue of the body of the tumor. The specimen corresponded with Virchow's description of a fibro-myoma. Klebs states that the coalescence of several tumors, as occurred in this case, is rarely seen. Emmet describes a case which resembled mine in some particulars ("Prin. and Prac. of Gynæcology," 1880, p. 580), and Barnes (op. cit., p. 289) quotes Crisp's case, in which a fibroid polypus was forced out of the uterus soon after labor was accomplished, the patient unfortunately dying in collapse; and another (op. cit., p. 290), in his own practice, in which the tumor grew from the fundus, and was found, three months after labor, decomposed and causing chronic pyæmia. Such are the dangers, therefore, which accompany a fibroid polypus of the uterus when complicated by pregnancy, and yet the premature termination of pregnancy in fortunate cases like mine may be the means of effecting a cure.

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*I have recently been informed by Dr. Isham that the patient was much improved July 1, though she was still anæmic; also that her urine contained only 2–10 of 1 per cent. of albumen, and that she was about to go to the sea-shore.

Considering the degree of decomposition which had been reached, and the fact that a process of septic absorption had already commenced, it is doubtful whether the patient whose history I have narrated could have successfully resisted the continuation of that process for the remaining five months of gestation, with the perils of parturition and the puerperal period superadded. Siebold and Wigand (quoted by Churchill, "Diseases of the Uterus," 1866) consider that the presence of a uterine fibroid polypus renders the continuation of pregnancy to term doubtful; but the cases of Cazeaux, Sedgewick, Scanzoni, Gussman, Schröeder, Gusserow and others (Gusserow, op. cit., p. 52) show that this is not only possible, but by no means infrequent. On the other hand, when we consider that the tumor may, and probably will, develop rapidly during pregnancy, that under certain conditions, chiefly mechanical, it will absolutely prevent the birth of a full-term fœtus by the natural passages, while under others it will undergo retrograde changes, which will imperil the lives of both mother and fœtus, it becomes a serious question whether inaction in such cases is justifiable. It seems to me, therefore, that in those cases in which the progress of the growth is below the fœtus, its removal at as early a period as possible, as practiced with such success by Mundé* (loc. cit.) is indicated, and that if the growth is out of reach (*e. g.*, above the fœtus, as in my case), premature labor should be induced when the symptoms become prominent, especially if they are delayed until the fœtus is viable.—*Annals of Gynæcology.*

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*Mundé states that in his case the tumor was removed during the sixth month of utero-gestation, and also that he found only one similar case recorded. In that case the tumor was enucleated at term by Schröeder. In both these cases the tumors were below the fœtus. Finally, in the transactions of the American Gynæcological Society for 1886 (p. 432), Parish reports thirteen cases in which Cæsarean section was performed on account of uterine fibroid tumors, and all but four of them were fatal.

ABSTRACTS.

BACTERIOLOGY AND PRACTICAL MEDICINE—The following interesting survey of the position of bacteriology with respect to medicine is transcribed from the *Centralbl. für Bacteriologie* (No. 18). It appears as an abstract, by Dr. Bujwid of Warsaw, of papers by Dr. Hoyer in the Polish journal *Gazeta Lekarska.* The author, who was the first to commence working at bacteriology in Warsaw, discusses the changes which medicine has undergone by the study of the parasitic origin of infectious diseases, and arrives at the following results:—All researches hitherto undertaken have aimed at learning the excitants of disease; very many of them have been discovered, and many have been profoundly studied, so that the cause of nearly all infectious diseases has been made known; but bacteriology has hitherto confined itself to these limits. Practical medicine in the more limited sense—prophylaxis excepted—has gained very little therefrom, but it may be hoped that the medicine of the future will play quite a different part, in consequence of the deeper knowledge of the various bacteria and their properties. Many purely empirical drugs will be rejected, and in their stead will be employed those which bear directly upon the morbific agent, or which act by strengthening the resistance of the organism. Unfortunately many questions still remain open. We know, for instance, very little of the way in which bacteria influence the physiological life of the organism. We cannot as yet determine why many micro-organisms which are introduced into the body in enormous quantities with water, air, or food do not give rise to derangements, or in what manner the really harmful organisms disappear from the blood or organs of some animals. Of great importance for the practitioner are the facts that similar groups of diseases can be excited by wholly different micro-organisms. Abscesses are produced, for instance, by the action of staphylococcus aureus and albus, streptococcus pyogenes, micrococcus tetragenus, and others. Erysipelas following wounds depends not only on the streptococcus erysipelatis of Fehleisen, but also on other streptococci and micro-organisms. Pneumonia is not only excited by Friedlander's pneumonococcus, but also by other bacteria. Two very similar diseases—cholera asiatica and cholera nostras arise from two very different kinds of bacteria. There are other facts of still greater importance, such as mixed infections. Rosenbach found many very different bacteria in the same abscess. The same is the case with septic infection of wounds. Similarly, as Wiegandt has observed, a kind of streptococcus is occasionaly associated with tubercle bacilli. Dr. Dunin has shown that certain complications of typhus depend on the presence of other bacteria, etc. When all these questions are solved, then our system of diseases will also be changed; we shall then no longer group them according to symptoms, but causes. There still remain many such questions unsolved. We do not know, for example, upon what depend the different results of experiments on animals when we inject small or large quantities of bacteria. Lastly, we also know very little of the reason why individuality plays so large a part in the manifestation of disease. Very interesting but unexplained is a research pursued by Wysskowitsch. He found that bacteria which had no effect on healthy animals excited diseases in other animals whose organism was slightly deranged. Thus injections of staphylococcus excited endocarditis in animals whose heart valves were injured. When all the foregoing and many like problems are solved, then it will become more easy to employ bacteriology in practical medicine, and then we shall learn to estimate rightly the great value of this new study.

INTRAUTERINE FRACTURES OF THE TIBIA.—Heinrich Braun (*Arch. f. klin. Chir.*, xxxiv., S. 668) has carefully collected together twenty-seven cases in point, four of which he observed himself. He calls attention to the fact that as a rule these fractures occur in healthy individuals without other malformations, and that the lesion of the tibia actually occurs in the uterus through a break, or at least an infraction. To be sure, the injury is not always due to a force acting upon the body of the mother, but probably also arises through pressure of the uterus upon the yielding limbs of the fœtus. Possibly in the latter cases there exists an association of the fracture with a defective development of the fibula, which lessens the resistance of the lower part of the thigh. These defects are of themselves rare; but in twenty-seven cases of congenital fracture of the tibia they were noticed sixteen times. A very frequent result of intrauterine fracture is shortening of the affected limb, which is not to be explained by fracture of the lower part of the thigh, or by previous ossification of the epiphyses, but must depend upon disturbances in the longitudinal growth of the tibia. The number of cases in which the retardation of the growth of the affected lower extremity could be followed up to a somewhat later period of life is, however, very small. As regards treatment, a greater interference than would be represented by a Keil osteotomy or by an osteoclasis, is only indicated in marked angularity of the tibia. In very moveable ankle joints, in which the foot is constantly rotated outwards, Braun has obtained artificial anchylosis of the ankle-joint in the position of equinus.—*Centralblatt f. d. med. Vissensch.*, August 27, 1887.

STRUCTURE OF MUSCLE.—The structure of muscle, one of the most difficult questions in histological research, is the subject of an essay by Mr. C. F. Marshall, of Owens College, who gives the following summary of his researches. In all muscles which have to perform rapid and frequent movements a certain portion of the muscle is differentiated to perform the function of contraction, and this portion takes on the form of a very regular and highly specialized intra-cellular network. This network, by its regular arrangement, gives rise to certain optical effects, which cause the peculiar appearances of striped muscle. The contraction of the striped muscle fibre is probably caused by the active contraction of the longitudinal fibrils of the intra-cellular network; the transverse networks appear to be passively elastic, and by their elastic rebound cause the muscle to rapidly resume its relaxed condition when the longitudinal fibrils have ceased to contract; they are possibly also paths for the nervous impulse. In some cases where muscle has hitherto been described as striped but gives no appearance of the network on treatment with the gold and other methods, the apparent striation is due to optical effects caused by a corrugated outline in the fibre. In muscles which do not perform rapid movements but whose contraction is comparatively slow and peristaltic in nature, this peculiar network is not developed. In most if not all of the invertebrate unstriped muscle there does not appear to be an intra-cellular network in any form, but in the vertebrate unstriped muscle a network is present in the form of longitudinal fibrils only. This possibly represents a form of network intermediate between the typical irregular intra-cellular network of other cells and the highly modified network of striped muscle. The cardiac muscle-cells contain a network similar to that of ordinary striped muscle.—*Lancet.*

RECENT VIEWS AS TO THE PATHOLOGY AND TREATMENT OF TUBERCULOSIS OF THE LARYNX.—Mr. Lennox Browne, of London, read a paper before the Section in Laryngology with the above title.

The tubercular bacilli are generally admitted as a cause of specific laryngitis. Entrance is effected through the air-passages, and they are especially liable to accumulate in the upper parts of the lungs, where there is less respiratory action. The disease is usually secondary to pulmonary tuberculosis, and may be due to infection from the bacilli in the sputa coughed up and inoculating some abraded or unhealthy and irritated portion of the larynx, or the germs may find their way thither through the lymphatic system. The bacilli, like all parasites, act as an irritant, and eventually cause breaking down of the tubercular deposits.

They must have an unhealthy or abraded surface on which to locate and thrive, and are prone to choose some weak point. Whether carried by the air, sputa, lymphatics, or general circulation, cases are recorded of infection through wounds and teeth that have been extracted. The author of the paper quoted cases confirming the same.

The state of the health and the assimilation of food, together with tissue-nutrition, have more to do with the development of tuberculosis than have locality or climatic conditions. Not only may we have laryngeal tuberculosis as a secondary infection, but we find cases where it is primary. The laryngeal symptoms may be the first to attract attention, and even become far advanced before pulmonary lesions can be detected. This is confirmed by many observers. The bacilli are recognized in the sputa, there is pain in the larynx, and difficult deglutition.

The larynx presents the specific appearance. We find the infiltration, swelling, and ulcers, but still can detect no pulmonary lesion. There must have been some neglected chronic laryngitis, or some solution of continuity when exposed to the presence of these germs. Cases are reported where these local symptoms have yielded to treatment before pulmonary complications were added, and the patients were discharged apparently cured.

Treatment.—Where the general system is not broken down, or the disease advanced to the lungs, sea, or mountain-air and high altitudes, especially in pine regions, are of vital importance. Oxygen, pure air, and the absence of germs are here more to be relied on than the thermal of climatic agents. Dr. Moore has ceased to advise the inhalation of medicated steam, but prefers oxidizing agents. Inhalations of vapor from turpentine, oil of eucalyptus, and menthol he has used with success.

It is well established that tuberculosis is a blood-poison, as are pyæmia, septicæmia, and the like. Germicides should be used, and benefit will result. He places great confidence in atropine, not only as a sedative, but as a germicide as well. Arsenic often works in the same manner as does mercury in syphilis. So, also, do the salts of calcium, where there are tubercular deposits. The aniline treatment has not been a success, and the gaseous injections are still on trial. Experiments with sulphuretted hydrogen show temporary improvement, with diminution of the amount of sputa expectorated, less pain, and less distress from persistent cough. Still, the permanent benefit is doubtful. This treatment needs careful supervision, and should not be trusted to the patients or their friends. The local treatment of tubercular laryngitis gives the best results, especially where systemic treatment is also employed to maintain health and nutrition. Use cocaine, and employ the galvano-cautery or lactic acid to destroy the deposits and induce healthy healing of the parts.

Where the infections are local, our success is in proportion to their accessibility.

He does not like iodoform or iodol dissolved in ether, as the ether is too much of an irritant, and prefers a brush made with cotton to the spray, in that it coats the surface better and is pressed into folds which are protected from the spray by the spasm of the larynx. The continued use of the spray he considers dangerous to the ciliæ of the epithelial cells. Local and systemic sedatives are emphatically called for. Insufflation is not as good as where emulsions are made with acacia, as it is apt to form cakes. Cocaine gives temporary relief, but morphine, belladonna, and balsam are more permanent in their relief of both pain and cough.

The surgical measures are to scrape away the deposits with curette or forceps, under cocaine, and apply lactic acid. Do not stab or incise; it may relieve tension and congestion, but is bad in that it gives new foci for infection. For the same reason it is better not to remove glomerulata unless respiration is seriously interfered with. Tracheotomy, for the purpose of giving rest to the larynx, is useless, and worse. The larynx does not then receive the necessary air and oxygen, and bacilli-infected mucus accumulates. The cold and dry air irritates the lungs and may induce pulmonary complications. Besides, the wound may become infected. Intubation of the larynx likewise causes too much irritation and aggravates the trouble, independent of the risk of blocking up the tube. Even refrain from removing an elongated uvula. He does not approve of the recent suggestion of extirpating diseased portions.

Many apparent cures are reported, and he has had such cases himself, but is inclined to doubt their permanence. We can improve the condition of the larynx, stop pain and cough, cause better assimilation of food, and improve nutrition. There result local relief and apparently satisfactory results, but scarcely a cure, as claimed by Schmidt, Bosworth and others.

Important suggestions.—1. Early diagnosis and treatment. 2. Do not be carried away with new remedies. 3. Never be too active in destroying tissue; heal instead. 4. It is better to observe facts and be influenced by the experience of many, than by the new ideas of the few.

MR. SCHWIMMER (*Viertelj. f. und Syph.* Heft. I., 1887) does not accept as fully proven that lupus is a local tuberculosis of the skin, and believes that the clinical pictures of the two diseases are quite distinct.

1. Cutaneous tuberculosis is a rarity; lupus is relatively frequent. Tuberculosis rapidly breaks down and lupus nodules are wanting.

2. Tuberculosis is almost exclusively found in mucous membranes at first, and only subsequently extends to the skin. In lupus the converse is the rule, rarely being found upon a mucous membrane alone.

3. Lupus of the skin rarely leads to general tuberculosis, while tubercle is the index of a constitutional disease.

4. In cutaneous tuberculosis bacilli are much more numerous than in lupus; as numerous, in fact, as the sputum of phthisis.

The lepra and syphilis bacillus closely resemble that of tubercle, and he questions whether the lupus and tubercle bacilli are identical.

Lupus has not yet been produced by inoculation from tuberculosis, although it is said that inoculation with lupus tissue has produced tuberculosis. If identical, they should be equally transmissible, the one from the other. In treatment destructive, agents which prove so useful in lupus, do not act so favorably on tuberculosis, which is more benefited by measures which diminish irritation. The pain of the latter disease he has found to be best relieved by papyotin in 5 per cent. solution, which has no effect on lupus.—*Journal Cutaneous and Genito-Urinary Diseases.*

OCCLUSION OF THE ŒSOPHAGUS BY A PIECE OF MEAT RELIEVED BY TRYPSIN is the subject of a clinical report in the October number of the *N. C. Medical Journal*, by Drs. W. H. Bobbitt and K. P. Battle, Jr. The patient was a boy three years old who was suffering from a stricture of the œsophagus, caused by swallowing lye eighteen months before. While eating ham he suddenly choked. All efforts to dislodge the piece of meat by mechanical means were unsuccessful. Finally it was resolved to try the solvent power of trypsin. A solution of thirty grains of Fairchild Bros. & Foster's trypsin, with ten grains bicarbonate soda to one ounce water, was given in doses of three-fourth teaspoonful every hour with the hope that a portion would remain in contact with the meat, The result was most gratifying. The next morning when the child attempted to drink water he swallowed without difficulty, and on vomiting a short time afterwards there were ejected a number of small fibres of the meat.

BALDNESS; WHAT CAN WE DO FOR IT ?—The above was the title of a paper read by Dr. G. T. Jackson before the Medical Society of the County of New York at a recent meeting. Premature baldness, it might be said in a general way, was that occurring before the forty-fifth year, although the period was arbitrary. Subdivisions were made into idiopathic and symptomatic. The idiopathic form began unannounced by any antecedent disease. Many families had it for generations. The different causes alleged for it were named, but the author gave particular attention to the influence exerted by want of proper care of the hair, as this was under the control of the patient, and was a part of prophylaxis and treatment. He was inclined to think that due attention to proper care of the scalp and general hygiene of the body were more reliable than any so-called remedies. Women gave more care to their scalps, and not only was baldness less common among them than among men, but the results of treatment were better. In families in which baldness was hereditary, prophylaxis should commence at birth with proper cleansing of the scalp, the use of soap and water, the brush and comb, and the avoidance of all things which might injure the scalp, The shampoo need not be repeated more than once or twice a week, and after drying, some unguent, such as sweet oil, should be applied. What not to do was nearly as important as what to do. Pomades, as they were liable to become rancid and injure the scalp, should not be used. Wetting, twisting, pulling, and scorching the hair, as fashion demanded, were injurious. Close-fitting hats and caps should not be worn. Anxiety of mind should be combated by cultivating a cheerful disposition. Baldness due to dandruff, syphilis, typhoid fever, etc., next received attention. In addition to treatment appropriate to the special disease, the author again urged the importance of systematic care of the scalp and hair.

THIRIAR ON WOUNDS OF THE PALMAR ARCHES. — Dr. Thiriar, taking as his text the case of a man who had been unsuccessfully treated both by a pharmacist and a surgeon for a wound in the hand, which, when he was brought into hospital, was both bleeding and suppurating, gave recently an instructive clinical lecture to the Brussels students on the management of wounds of the palmar arches. He pointed out that there is, from a clinical point of view, a distinction to be drawn between these and other wounds of the palm, which implicate only the collateral branches, a distinction which is not clearly stated in surgical works which students read. The latter class of wounds present no difficulty, and the hemorrhage from them can be easily arrested. Not so, however, with the wounds of the palmar arches. Here, of course, the obvious indication is to search for the two ends and tie them. In consequence, however, of the tendency of the artery to retract, it is frequently impossible to find these ends without an amount of dissection which is undesirable. Perchloride of iron and other styptics hardly ever succeed, and they are to be avoided on account of the effect they produce on the surrounding tissues. The actual cautery is somewhat better, if not too highly heated, but even this very frequently fails. Even if success results, it is usually only temporary, for the muscular coat of the artery is apt, as Dolbeau pointed out, to relax after a time, and permit hemorrhage to break out afresh, in spite of any clots which may have formed. Similarly direct compression is seldom permanently successful. Compression of the ulnar and radial, forced flexion, and forced extension may be used as temporary expedients; for example, on the field of battle. Vanzetti's method of keeping the lips of the wound widely apart by means of hooks, and that of forcipressure, is not satisfactory, and Dr. Thiriar recommends that no time should be lost in trying cones of charpie and starch, elastic balls or sponges. The safest and best plan is to ligature in the wound, if possible; if not, above it. In recent cases it can usually be done in the wound. Where it is necessary to tie higher up, it is of no use to tie the ulnar and radial; and, if the wound is not very recent, and there has been time for a considerable amount of collateral circulation to have developed, even the brachial must be tied above the profunda. It is necessary to remember that the axilary artery sometimes gives off two brachial branches as high as the axilla itself. M. Thiriar examined a large number of arms in the dead-house when he was in charge of the post mortems, and found this anomaly present in twelve per cent. of the cases. However, he has always succeeded in arresting hemorrhage in wounds of the palmar arches, even when the tissues were suppurating, by a modification of Sir J. Simpson's plan of acupressure. He uses needles curved to a semicircle, and, passing them under the artery, brings the edges of the wound together and occludes the vessel by the application of a twisted suture, which there is no need to draw very tightly. He summarizes his advice thus: 1. Direct ligature. If impossible, 2. Twisted suture and acupressure. If unsuccessful, 3. Ligature of humeral in the middle, if the collateral circulation has not had time to develop; above the profunda if it has. 4. Employment of compression—direct or indirect, forced flexion, forcipressure, styptics, etc., only as temporary expedients. — *Lancet*, October 1, 1887.

OBITUARY.

THE LATE DR. T. R. VARICK, OF JERSEY CITY.

At a stated meeting of the New York County Medical Association, held December 19, 1887, the following resolutions, presented by the Executive Committee, were unanimously adopted:

WHEREAS, Dr. Theodore Romeyn Varick, in obedience to the inexorable destiny of our race, has paid the common debt of nature in the prime of his usefulness, and

WHEREAS, we as Fellows of the New York County Medical Association to whom he was endeared by many acts of friendship, desire in appreciation of his admirable qualities to pay a tribute to his memory, therefore be it

Resolved, That we have ever recognized in him a man of sterling integrity, generous impulses, and charitable deeds—one who by his achievements in surgery has advanced the knowledge of his art and added not a little to the glory of our common profession.

Resolved, That we especially cherish his name for his self-reliance and independence, his ethical consistency and his loyalty to science, his edifying remarks in debate, and his substantial contributions to medical literature.

Resolved, That we offer to his family our sincere sympathy in their sudden bereavement, and trust that their sorrow, like our own, may be mellowed by the memory of a life well rounded by works, begun in conscientious endeavor and ended not without benefit to humanity.

P. BRYNBERG PORTER, M.D.,
Recording Secretary.

JOHN SHRADY, M.D.,
President.

DIED.

On Saturday, January 7, 1888, Dr. WESLEY M. CARPENTER, of New York.

PROCEEDINGS OF SOCIETIES.

DISCUSSION OF FEVERS.

FEVER:* A REVIEW OF DR. FLINT'S PAPER. By WILLIAM MCCOLLOM, M.D., Brooklyn, N. Y.

In the exceedingly interesting and practically important address upon "Fever, Its Cause, Mechanism, and Essential Treatment," delivered by Austin Flint, M.D., LL.D., before the Ninth International Medical Congress at Washington, D. C., in September, 1887, we have little to criticise and much to approve.

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*This paper was read before the Kings' County Medical Association, January 3, 1888.

His definition and mechanism of fever is not full and satisfactory, and is open to criticism, but he properly says that the subject is too large for full discussion in the limits of the address. Dr. Flint takes typhoid as the type: symptomatic fevers are not considered. He believes that the principal cause of all essential fevers is micro-organisms, and notices the fact that recently the bacillus of typhoid has been more carefully isolated, cultivated and described than those of the other essential fevers. We know, perhaps, as much and no more to-day of the bacillus as a factor in the production of typhoid than of other self-limited diseases. It now seems to be the almost universal belief that the essential fevers are caused from micro-organisms, but just what part they play, how they produce the rapid molecular changes and the great disintegration and waste of the fatty and muscular tissues of the body with the resulting pyrexia, we know little or nothing, and Dr. Flint has wisely, I think, treated the subject from the standpoint of physiology rather than bacteriology, and he is so justly eminent in his special scientific work that his theory of fever should receive careful and intelligent consideration.

His remarks upon the physiology of animal heat are clear and full, and his critical painstaking experiments to prove what is more novel in physiology, that water is formed in the body from the union of its ultimate elements, oxygen and hydrogen, and that the oxidation of hydrogen is an important factor in the production of animal heat, are of practical interest in the supervision of the nutrient function in the treatment of fevers.

It is not my purpose to make an abstract of or quote largely from Dr. Flint's paper, for, no doubt, it has been examined by most of the Fellows of this Association, but to call attention to what seems most novel and practical in it. He expresses definitely his views in the following propositions:

1. It is probable that the original cause of most, if not all, the essential fevers is a micro-organism, differing in character in different forms of fever.

2. Defining fever as an abnormal elevation in the general temperature of the body, the pyrexia is due to the following modifications in the normal heat-producing processes:

a. Oxidation of certain constituents of the tissues, probably by reason of the presence of micro-organisms in the blood, is exaggerated independently of increased muscular work and without being compensated by a corresponding increase in the appropriation of nutritive material. This increased waste of tissue is represented by the excess of carbonic acid and urea excreted.

b. The part which the formation of water within the body plays in the production of heat is either suppressed or is greatly diminished in prominence, together with the equalizing action of cutaneous transpiration.

This proposition is based upon clinical facts, which show an increased excretion of carbonic acid and urea, and a diminished excretion of water in fevers; and upon experiments which show that muscular work, while it increases heat-production, increases the production of water.

3. Fever produces abnormal consumption of fat, with parenchymatous degenerations, for the following reasons:

a. The fat is consumed because it feeds the pyrexia more readily than do the other tissues of the body, and its consumption is the most important source of carbonic acid.

b. Parenchymatous degenerations of muscular tissue and of the solid organs occur, chiefly because the abnormal transformations of these parts, which result in an excess of urea, and which probably also contribute to the excess of carbonic acid, are not compensated by the appropriation of nutritive matters from the blood.

c. It is well known that patients with unusual adipose or muscular development are likely to present a more intense pyrexia in fevers than are those whose adipose and muscular development is smaller. Finally—*An essential fever is an excessive production of heat in the body, induced by a specific morbific agent or agents, and due to excessive oxidation, with destruction of the tissues of the body, and either a suppression or a considerable diminution in the production of water.*

It is easy to believe that the marked increase of animal heat in fever is principally the result of an exaggeration of the normal heat-producing function, but whether the formation of water in the system and its elimination as excrementitious matters has as much influence over the pyrexia as he seems to believe can well be questioned: he says that "in health the formation of water with its inevitable generation of heat, seems to carry with it the conditions for equalization of the animal temperature;" this we may admit, as well as the fact that great muscular exertion is attended with rapid disintegration of tissue oxidation of the same increased body heat and increased elimination of water, but not be convinced that the production and elimination of water in the system has any considerable influence over the pyrexia in the course of essential fevers. If water is formed in less amount, less heat will be generated, which may, perhaps, compensate for the cooling influence of cutaneous transpiration. Clinical experience teaches us that not infrequently, for a considerable period in the course of continued fever with temperature ranging high, perspiration is abnormally in excess, though this condition is not the rule.

If the normal balance of water production and elimination is destroyed to a considerable degree, the system will suffer in its assimilative and nutritive functions whether the temperature is materially increased or not. The practice of drinking water very freely seems to increase body weight and the storage of fat. Water supply or production as well as elimination in fevers, aside from its influence as a factor in causing pyrexia, deserves the most careful study.

In puerperal fever, probably, a germ disease, in which the fever is continuous, and the temperature commonly very high, perspiration is usually free. The exceedingly high pyrexia in paroxysms of intermittent fever, when they occur on the second and third days only, the temperature on the other days being normal or nearly so, can only be explained by saying that the micro-organisms, in some way not known to man, effect morbid action of the nerve centres and derange and demoralize the functions of nutrition, assimilation, calorification, disintegration, and elimination.

The onset of typhoid fever, which often comes without wavering, denotes great disturbance and deranged function of the nervous system. Coma and delirium are occasionally noticed on the first or second day, before the temperature is yet high, a condition we do not see in the pyrexia of inflammations. I feel that Dr. Flint does not put sufficient stress upon the influence of the nervous system in producing and maintaining the conditions existing in the essential fevers.

We observe high pyrexia from causes temporarily disturbing the nervous centers. Not unfrequently the physician is called to examine children at night with a temperature of 104° or 105° with marked disturbance of the nervous system, cured in a day by a liberal dose of bromide of soda and an active laxative; the fever in such cases due, in all probabilty, to reflex enteric or gastro-enteric irritation, and presumably, in some cases, from the presence of ptomaines in, or a septicæmic state of the alimentary canal.

The very high pyrexia in apopleptic seizures is instructive as showing the influence of the nervous system in heat production.

It is not probable that we have in the central nervous system a special heat-producing and heat-regulating function, liable to become deranged for a brief or longer period from various causes?

The bacilli of intermittent fever may disturb the heat centre every third day only, while the bacilli in typhoid disturbs it continuously to some degree, with a marked paroxysm of heat once and often twice in twenty-four hours. Marked mental emotion sometimes raises the body heat three or four degrees in a brief time.

To say that the pyrexia is due to the oxidation of certain constituents of the tissues due to blood poisoning or micro-organisms is incomplete and unsatisfactory. Hippocrates, 450 years before Christ, taught that the eruptive and infectious fevers were caused by a specific poison introduced into the blood, and after a process of ripening or reproduction for a certain time, was eliminated through the skin, lung and intestines. Do we know much more of the cause of the essential fevers to-day other than that the poisoning is a germ? I trow not. The author's recommendations as to treatment logically follow his theory of fever, which he classifies as follows:

1. Reduction of the general temperature by the external application of cold.
2. Reduction of temperature by the internal administration of antipyretics.
3. Promotion of general nutrition by alimentation.
4. Measures to supply to the system matters that can be consumed in excessive production of heat, thereby retarding destruction of tissue.

The principles of treatment are not wholly new. Sydenham more than two hundred years ago emphasized the importance of refrigerant methods and the use of cold water externally in the treatment of fevers. The reduction of temperature by antipyretic medicines is of more recent date, and the principal agent for this purpose was quinine, which has justly grown into disfavor, for it does not reduce the temperature unless given in quantity so large that its effect is more harmful to the system than the paroxysms of the fever

Antipyrine and antifibrine now seem to be the popular antipyretics. They are under trial, and it is not settled that they are of special value in fevers. If it is shown that the pyrexia can be reduced by antipyrine, and that it acts as an anodyne and nervine without depressing and lessening vital power it will, perhaps, be the most valuable remedy we possess. But are we sure that the reduction of the temperature in typhoid fever is so important as the views of the author indicate? It is not proven that pyrexia is the chief source of danger, though as a rule it may be a good index to the severity of the disease. If it can be shown that in the high temperature is the chief danger, antipyretic measures are all important, provided that such measures are without prejudicial influence.

Antypirine will reduce the temperature temporarily, but I think that clinical experience teaches that it depresses the circulation and the vital power, and if it is given daily for weeks in sufficient quantity to control the heat, it is more than probable that it will do more harm than good. It may be useful to use occasionally in the extreme range of the pyrexia.

(FELANA FOR ARELONGEN.)

Filehne of Erlangen was the first to use antipyrine in fevers. He gave two grammes at intervals of an hour which reduced the temperature in the course of two or three hours and held its influence seven hours or longer. The pulse followed approximately the temperature curve. Dr. Wm. H. Draper gives notes of his experience in twenty cases treated by antipyrine and cold bathing. He says "that it was rarely necessary to use more than 150 grains in twenty-four hours, to maintain the average from one to two degrees below from what it might have reasonably been anticipated without its use." He thinks it diminished the frequency and increased the strength of the pulse, without depressing the heart's action. Sweating was produced by it in six cases, and "one of the most marked and uniform effects observed was the moistening of the tongue." The nervous system was favorably influenced, "generally it quieted the delirium, cleared the intelligence, diminished deafness, and allayed restlessness and subsultus."

Vomiting was occasionally provoked, and in six cases a rash like the measles appeared, but passed away in a few days without discontinuing the medicine. He thought it markedly increased the comfort of the patient. The mortality, however, was twenty-five per cent.

Dr. Zeinsen speaks very favorably of the action of antipyrine and antifebrine, and says: "I have now used antipyrine in several hundred cases, and always with great satisfaction, and can recommend it as a most trustworthy antipyretic." With such evidence in its favor it should continue to be studied faithfully and critically, and ali its effects noted, especially, its depressing influence.

Fever is many times compensatory. When it follows depression and a chill it is eminently so. It is a symptom that cannot be removed during the course of the disease, and we have no evidence to show that in the reduction of temperature the disease has been shortened a day.

It has not very unfrequently been observed that in serious cases terminating in death, the temperature has not run high. Not infrequently cases are observed with a temperature daily reaching 104° comparatively comfortable, with the mind clear and the general aspect good.

When the temperature runs above 103° efforts should be made to reduce it. It is an interesting fact that a temperature without very marked variation during the twenty-four hours, though not excessive, is of more serious import than one of greater range, reaching a higher and lower point daily.

Dr. Flint's theory of the action of alcohol and other hydro-carbons is interesting, but their value has long been recognized. His teaching that water is formed in the body by the oxidation of alcohol is novel and of practical interest. In the action of alcohol in the body he seems in accord with the lamented Dr. Anstie who many years ago wrote so clearly upon the subject of alcohol as a food.

Dr. Flint says: "In the administration of alcohol in fevers, we are really using the hydro-carbons in a form in which they may be immediately oxidized, and do not require preparation by digestion. Thus we easily supply material to meet the excessive waste involved in the pyrexia in much the same way as we administer peptonized albuminoids to meet the excessive waste of the nitrogenized parts of the tissues when the digestive organs are impaired." My own experience, which has been large, in the use of alcohol in certain conditions of continued fever, favors the full credence he puts upon its value. It may be of interest to go back a little to review the progress we have made in the treatment of fever, to inquire if we have really made much in the last half or three-quarters of a century? Has the essential treatment very materially changed? and have we lessened to any, or any considerable degree, the death rate in typhoid fever? The last question is an open one, and not easily settled by statistics. We have some interesting statistics of observations made in public institutions and fever hospitals, in the last two decades, bearing upon the mortality and the question whether or not the period of the disease is shortened by any formulated plan of treatment. It is asserted by Ziemmssen and other authorities that the death rate has been considerably reduced during the last twenty years. If the change from the so-called antiphlogistic plan to one of more generous dietetic stimulants and antipyretics has not effected better results, the theory of fever sadly needs revising. I have little doubt that real progress has been made, and the improvement has been in a return to the older methods as regards increased alimentation stimulants and antipyretics. The clinical thermometer, and the trained or intelligent nurse have been very important factors in contributing to lessen the mortality.

If we would single out the most important change made in the management of fever in the last thirty years, we must say that it has been in dietetics. Dr. Flint teaches that the consumption of fat is rapid and that it feeds the pyrexia more readily than the other tissues, and indicates the value of fat in alimentation. The present practice of giving milk freely as a part of the diet is an excellent one, when not contra-indicated. If the upper or fatty portion of the milk is properly peptonized or pancreatized it can commonly be given in considerable quantity with good effect. No change in the dietetics of fever has been so important as a free use of milk in later years. Milk is not only rich in fat, but in the carbo-hydrates and albumen as well. It is important that the diet in fever be a mixed one. The carbo-hydrates are all important when the waste of the fatty and albuminous tissues is rapid, and they are usually well borne. They should form the largest part of the diet. If the carbo-hydrates in health are to some extent converted into alcohol in the body, and the alcohol is oxidized and water is formed with generation of heat, they must be of especial value in diseases producing rapid wasting of tissues, so starch, sugar and dextrine should be used in some form. Whether we question the theory of the oxidation of alcohol in the system with production of water and generation of heat or not, we must admit that it has been ranked by some of the best observers for the largest part of two hundred years a valuable agent in the treatment of essential fevers. While we recognize the great value of this hydro-carbon it is a satisfaction to have a rational theory of its physiological action from so distinguished an authority as Dr. Flint.

Albuminoids are only second to carbo-hydrates and should be used in the form of meat juices, eggs, albumen, etc.

The researches of H. von Hösslin and Vogel show that tissue waste is materially lessened when the system is supplied with fat, the carbohydrates and albumen, and that convalesence is markedly more rapid.

Nothing will tax the ingenuity of the physician more than how these nutritive agents can be prepared, made palatable, by varying the form and making frequent changes, so that they can be taken with a relish and so be more easily digested and assimilated.

Any one who will examine the literature of essential fevers in the first years of this century, will be impressed with the rational treatment then recommended. Dr. Currie of Liverpool, wrote ably of the great efficacy of cold effusions in typhoid fever, then called typhus mitior; at this time typhus was called typhus gravior and typhoid, typhus mitior; the two were believed to be identical, differing only in type. It was not until a later period, about 1840, that Chromel of France, Sir Thomas Watson and others called special attention to the pathological changes of Peyer's glands as distinguishing typhoid from other fevers. Dr. Currie's teachings as to the use of cold water in fevers was pretty generally tried by English physicians, at the very commencement of this century, and was favorably commented upon.

Thomas, an English author, in his work on the Practice of Physic, published in the year 1816, recommends cold effusions, a liberal use of wine, sago, gruel, panado, arrowroot and the like, and says that "wonderful indeed are the effects produced by wine in this disease." He says that in ordinary cases a half bottle a day will do, but in other cases a bottle and more may be necessary; he speaks favorably of cinchona and muriatic acid, and a general supporting treatment. Thatcher an American author, of about the same date, says, that when the body is preternaturally heated in typhus(typhoid) fever, cold water applied to the surface is one of the most powerful and efficacious means that can be employed. Cold water may be drank with the utmost freedom during the hot stage. He also advises that the patient be well supported by oat gruel, sago, panado, arrowroot, jellies, chicken broth and beef tea, and for ordinary drink, wine-whey, and if much exhaustion is present, madeira, port or claret wine should be given, a bottle or more a day, though not to produce the least intoxication. Bark and the mineral acids with opiates if required are advised, with the strictest attention paid to bathing, ventilation and hygenic surroundings. It will be seen that this treatment is in harmony with the plan outlined in the paper under consideration. It is true that in later years this plan was changed for the worse. When more was known of the pathological lesions of typhoid fever, they were believed to be inflammatory, and antiphlogistic measures with low diet and the avoidance of stimulants was advised. Then came another change and we went back to a more rational treatment again. Dr. Graves taught us that fevers could and should be fed, and to him is due great credit for his earnest advocacy of all the nourishment the system can appropriate in fevers.

And now if the paper we are reviewing offers little new in treatment, the physiological reasons given for the rational treatment is of great interest, and will, I hope, tend to perpetuate correct principles in the management of this serious disease. In the treatment of fever it is impossible to definitely outline a plan of treatment. Every case of typhoid fever is not a typical one. In localities where malaria is not present it is easy to diagnosticate the disease.

When it appears in regions where malaria is prevalent and the diagnosis is not easily made, it is convenient to have the term "typho-malaria" to cloak our ignorance.

The fevers we see in the cities are often puzzling, not clearly typical. Sometimes it requires days of watching to determine whether we have typhoid or malarial fever. When the blood is poisoned from composite or mixed gases from the sewers, and micro-organisms differing in character take part in producing the phenomena noticed, the disease is not easily named.

During the winter season I saw three cases of diphtheria and one case of continued fever in a private family, all occurring near the same time and undoubtedly caused from a broken, untrapped drain-pipe, which freely ventilated the sewer into the dining-room. The case of fever ran on six weeks, the temperature repeatedly reaching 106°, anti-malarial remedies holding no control over it. It finally terminated in recovery.

The types of fever differ so widely and the conditions existing are so varied, that it is difficult to formulate a definite plan of treatment. We should endeavor to correct what is going wrong; to watch for unfavorable tendencies; to try and conduct it to a favorable close. Pitcairn wisely said, "You may guide a fever—you cannot *cure* it. What would you think of a pilot who attempted to quell a storm? Either position is equally absurd. In the storm you steer the ship as well as you can, and in fever you can only employ patience and judicious measures to meet the difficulties of the case."

The limits of this paper will only allow me to refer to some of the more important therapeutical methods in the treatment of typhoid fever, which may be profitably discussed before this association.

I will do little more than name a few of the more important remedies.

It is good practice, in most cases, to give a mercurial laxative on the outset of the disease, so as to have the intestinal canal cleared of offending matters, and the eliminating function made active.

The excited action of the heart can be checked, and the skin moistened many times by the judicious use of aconite in the earlier stage.

Bromide of sodium or the effervescing combination of the bromide salt with caffein is often useful in relieving headache and calming the nervous system.

Many cases will require an opiate at night—better combined with the bromide of sodium. Such a dose will often give peaceful rest at night. The bromide is also useful for its antiseptic action in the alimentary canal.

When enteric irritation is marked and diarrhœa is present with metiorism and offensive dejections, it should not be checked to a great degree. Napthalin or napthal, turpentine and bismuth are probably the best remedies.

We should carefully guard the heart in the advanced stage of the disease, and in convalescence as well, for cardiac weakness is many times a dangerous symptom. Strychnia, caffein and digitalis may be used with good influence. Quinia is not a good remedy, though it has been extensively used in typhoid fever. Not a good remedy unless the disease has malarial complication.

It disturbs the nervous system, makes the patient uncomfortable, irritates the gastro-enteric lining, and checks secretion when given in considerable doses, and is almost worthless as an antiseptic.

Salicine is a much better remedy, and can often be used freely with benefit.

It is to be hoped that antipyrine and antifebrine will prove to be good and unobjectionable antipyretics, and will, with the cold bath, be all that is required to keep the high pyrexia in check.

Antipyrine and its analogue evidently exert their influence primarily upon the central nervous system, and if we have a thermic center, with exalted and deranged function in fevers, and these agents subdue and modify abnormal action of the same, act in a physiological manner to control heat production. It is a more rational method than to depend upon external antipyretics, like cold water and ice, to cool the body heat, while heat production goes on unchecked.

It is not well to forget, however, that the antipyretic action of cold water to the surface has stood the test of two hundred years, and that the newer internal antipyretics being cardiac depressants should be used with great care and judgment in a disease in which recent pathological study has shown that cardiac complications are frequent and dangerous.

FEVER: AN ANSWER TO DR. FLINT'S PAPER. By THOMAS M. ROCHESTER, M. D., Brooklyn, N. Y.*

The paper of Dr. Austin Flint, read at the Ninth International Medical Congress, has excited wide remark and comment, due to the fact that he therein enunciated certain novel views as to the physiology and pathology of "Fever." After a brief introduction, the paper opens with a statement of the object of the address which is "to show how the metamorphosis of matter involved in the normal production of heat is accomplished, how the abnormal production of heat in fever, involving, as it does, abnormal activity in the metamorphosis of tissue, may be restricted, and how abnormal destruction of tissue may be limited and repaired." Then follows a review of the best beliefs as regards animal heat, and an explanation of the use of the heat-unit in its measurement.

An experiment on himself shows the probable formation within the body of a certain amount of heat unaccounted for by the heat value of the ingested food; and again by two further experiments, one personal and the other on a pedestrian, he concludes that "under certain circumstances, at least, water is actually formed in the body by the union of oxygen and hydrogen," and says, "if it can be assumed that water is found in this way, the heat value of hydrogen being very great, there is little difficulty in accounting for the heat which has been estimated by direct observation to be produced in the body, as well as for a considerable surplus of heat expended in the form of muscular force." Then comparing the water produced in the body with the two typical excretions, carbonic acid and urea, he finds that it seems, to a great extent, to be governed by the same laws, and as far as its production and elimination are concerned, to be in reality an excretion. Assuming as true the foregoing statements, he concludes that water and carbonic

*This paper was read before the King's County Medical Association, January 3, 1888.

acid are the two excretions with which the generation of animal heat is most closely connected. The number of heat-units produced by a given subject being largely increased by muscular exercise, and such exercise greatly augumenting the discharge both of carbonic acid and water, but not proportionately of urea, is the reason why the elimination of the latter excretion is omitted as a factor in the production of animal heat.

The above is a brief though I believe fair resumé of the introductory and physiological portion of Dr. Flint's paper, though it is granted that greater amplification would be needed for one who had not read the article.

He then proceeded to discuss the mechanism of fever, taking typhoid as the type, and adopting the modern theory of micro-organism as the cause of production of all essential fevers, and regarding the majority of them as self-limited.

He considered the cause of the pyrexia as due mainly to an exaggeration of the chemical changes taking place in the organism and in a less degree to a disturbance of the equalization of the bodily heat through the skin, etc. Inanition and pyrexia are contrasted. The former showing a lowering of bodily temperature with diminished excretion of carbonic acid and urea; the latter an increase of temperature and also an increased elimination of the above named excretion. A strong point is made of the danger of allowing the patient to suffer from both combined in cases of fevers, through a failure to supply in some suitable manner the tremendous waste which is necessarily going on.

It is added that the waste of the body is most marked as regards the fats, and that this accounts for the increased elimination of carbonic acid, that of the muscular tissue by urea.

He concludes this portion of his paper by saying:

"If we can logically view water formed in the body in the light of an excrementitious product, the formation of which in health is closely connected with the process of calorification, the changes noted in most of the cases of typhoid fever, as regards the production and discharge of water, become very important. In nearly all essential fevers there is thirst, but the discharge of water by the skin and kidneys is notably diminished, especially the discharge by the skin, which is dry and hot;" and speaks of the formation of water in health as *inevitably associated* with the generation of heat, repeating that an unusual demand for heat, as in muscular exertion, is always met by an increased production of carbonic acid and water.

He then sums up his beliefs in the following proportion, claiming that they are the logical deduction from the foregoing portion of the paper.

1. It is probable that the original cause of most, if not of all the essential fevers is a micro-organism, different in character in different forms of fever.

This proposition is based upon bacteriological researches of recent date, especially with regard to typhoid fever.

2. Defining fever as an abnormal elevation in the general temperature of the body, the pyrexia is due to the following modification in the normal heat-producing processes:

A. Oxidation of certain constituents of the tissues, probably by reason of the presence of micro-organisms in the blood, is exaggerated independently of increased muscular work and without being compensated by a corresponding increase in the appropriation of nutritive material. This increased waste of tissue is represented by the excess of carbonic acid and urea excreted.

B. The part which the formation of water within the body plays in the production of heat is either suppressed or is greatly diminished in prominence, together with the equalizing action of cutaneous transpiration.

This proposition is based upon clinical facts, which show an increased excretion of carbonic acid and urea and a diminished excretion of water in fevers, and upon experiments which show that muscular work, while it increases heat-production, increases the production of water.

3. Fever produces abnormal consumption of fat, with parenchymatous degenerations, for the following reasons:

A. The fat is consumed because it feeds the pyrexia more readily than do the other tissues of the body, and its consumption is the most important source of carbonic acid.

B. Parenchymatous degenerations of muscular tissue and of the solid organs occur, chiefly because the abnormal transformations of these parts, which result in an excess of urea and which probably, also, contribute to the excess of carbonic acid, are not compensated by the appropriation of nutritive matters from the blood.

C. It is well known that patients with unusual adipose or muscular development are likely to present a more intense pyrexia in fevers than are those whose adipose and muscular development is smaller.

Finally. *An essential fever is an excessive production of heat in the body, induced by a special morbific agent or agents, and due to excessive oxidation, with destruction of the tissues of the body, and either a suppression or a considerable diminution in the production of water.*

The remainder of the paper is devoted to a general but masterly exposition of the rational treatment of fever; especial attention being called to the necessity for proper alimentation to compensate the necessary waste, by the use of foods having great heat value, such as fats and farinaceous articles. Recognizing that in a large majority of cases this will not be feasible, owing to the conditions of the digestive organs, he concludes by strongly advising the judicious use of alcohol, not for its stimulating effects, but for its great heat value and the readiness with which it is oxidized in the body.

Adverse criticism is always, to a certain extent, a thankless task, and would be especially so in this case, were it not for the fact that from the very position which Dr. Flint holds in the profession he courts the fullest discussion of his *dictum*, and that it is hardly to be supposed that so accurate and careful an observer would be willing to lend the weight of his great authority to incorrect deductions from physiological facts. After proving most conclusively, to my mind, and, I presume, to the minds of most of his readers, that the production of water within the body is one of the greatest factors in the generation of animal heat, why he should conclude that fever, commonly considered as increasing the bodily heat, is largely due to the suppression or great diminution of this very production seems almost incomprehensible. Even admitting the conclusion of Sanderson, referred to by Wood in his work on fever, that the febrile human subject produces more heat than a fasting, but less than a fully fed, healthy man, the position would not be proven, as I shall show later on. Dr. Flint, however, does not allude to these calculations, and therefore presumably does not agree with them. But let us go further into the subject and see what are the conditions that exist, as far as the excretion of water is concerned, both during the normal and febrile state. And here it would be well to recall to your recollection that the personal experiments detailed in the paper under discussion were made on a man weighing 186½ pounds, while the average individual, physiologically speaking, is fully forty pounds less.

Authorities are united in agreeing that the ordinary daily excretion by the kidneys is about fifty ounces—that is, in a typically healthy man on an ordinary diet. In addition to this we have, according to Dalton, thirty ounces eliminated by the skin and twenty in the watery vapor from the lungs. This is only a general average, and Dalton adds that when the activity of one source of elimination is lessened, that of the others is increased.

It must be remembered also that in proportioning this average only what is called the imperceptible cutaneous transpiration is considered, and that any periods of sweating, whether excessive or not, would increase the amount eliminated by the skin, as stated in the above generalization.

So much for the average daily excretion ; but how about the average daily ingesta ? According to Pavy, the ordinary amount required is twenty-three ounces of *dry* food. This is reducing it to the proximate principle of albuminous and fatty matter—carbonates, hydrates and salts. To convert it into the state in which it is usually taken we must supply at least fifty per cent. of water, which would make forty-six ounces of solid food, and fifty to eighty ounces of liquid, or in that proportion. From this of course we must deduct the twenty-three ounces dry residue, leaving, by taking the mean, sixty-five ounces of liquids, eighty-eight ounces of water, daily ingested. Now, as the excretion for the same period of time has been figured as one hundred ounces, we have twelve ounces of water produced in the body, presumably by the oxidization of the carbo-hydrates of the tissues.

It is by no means intended to claim from the above that the amount of water produced in the body by the average man on an ordinary diet is only or just twelve ounces, but the comparison has been drawn between ingesta and secretion simply to corroborate Dr. Flint's statement that water is actually found in the tissues of the system.

And now let us consider what are the conditions existing during a state of pyrexia. We have, in addition to the admitted high temperature, an increased circulation and respiration, anorexia, with an inability to retain or digest solid food, or even liquids, except in small quantities, and not always even that; an absence of muscular exercise, and, according to Dr. Flint, a "*notably diminished discharge of water by the skin and kidneys.*"

While I believe that the admission of this last-mentioned statement would not absolutely upset the line of argument that I propose to take, yet in venturing to differ with so great an authority it is well to protect the whole line of one's defence in so far as it is possible.

Broadbent, in his article on Fever in Quain's "Dictionary of Medicine," says: "The secretions are more or less modified. The perspiration may be greatly increased, as in acute rheumatism, or *apparently* checked, causing the skin to be dry and burning. The amount of urine will vary, to a certain extent, inversely with the amount of perspiration; but the tendency is to increase."

Again, Hutchinson, in his article on Typhoid Fever in Pepper's "System of Medicine," says: "The skin *may* be almost constantly dry, as well as warm, in a certain proportion of severe cases. But, on the whole, perspiration occurs with greater frequency in typhoid fevers than in any other acute disease, unless it be rheumatism." He goes on to mention the time in the day at which it most frequently occurs, and adds that it is sometimes a very grave symptom from its prostrating effects. The same author also notes the uniformly increased respiration, independent of lung trouble, or even increased circulation, citing among a number of others one case from Murchison where, the pulse being forty-two, the respirations were forty-eight. He also says that the amount of urine is diminished, but adds that the skin, as a rule, is moist at all times, in addition to the periods of excessive sweating.

Dr. Flint has selected typhoid fever as his type, so that it is not necessary to go into the subject of the intense activity of the skin in rheumatism, malarial and septic fevers, or to more than mention the colliquative sweats of phthisis. To be sure, in his personal starvation experiment there was an increase of excreted over ingested water by forty-six ounces, while my figured average, according to Pavy and Lander Brunton, was only twelve ounces. But then these figures were deduced from the non-fasting average individual, and if "every man's disease is his own personal property," as the late Dr. Alonzo Clarke used to say, why may not the same rule apply to his water?

Granted, however, that the water eliminated by the skin and kidneys is decreased, although, as may be seen from the foregoing, I by no means consider this as proven, yet there are a number of other factors that must be considered. To start with, then, the question must be settled whether this decision, if any, is real or only comparative. Take Pavy's allowance of eighty-eight ounces of water, as the average amount rejected daily by the average healthy man (and I am willing to accept any other reasonable estimate that may be suggested), how many typhoid or other fever patients take that amount daily?

The condition of the stomach forbids it, and, if so large a quantity were forced upon a patient, it would, in all probability, be rejected. Then, there being no muscular exercise, we do not need so great a production and excretion of water as in health. Again, in typhoid fever we have to reckon the water of the fever, which is largely in excess. For, while in health, according to Dalton, but six per cent. of water is eliminated in this way, in the diarrhoea of typhoid this is largely increased. To say nothing of the occasional epistaxis, nausea and vomiting, by which there must be a certain amount of water lost, and therefore produced, we have the almost constant bronchial secretion, and last, but not by any means least, the INCREASED exhalation of watery vapor by the lungs. So far as I am aware, no experiments have been made to show the exact amount of water removed from the system by these various means, but it is fair to assume that the total must be considerable. In particular must the watery vapor from the lungs be responsible for a large proportion.

According to Dalton it is represented as being one-fifth of the whole amount eliminated in a state of health. The same author, after giving the estimates of Valentine for the amount of water thus exhaled at about sixteen ounces, goes on to say that this amount may be greatly increased or diminished, according to the rapidity or slowness of the respiration. He cites as an instance those species of animals, such as dogs, which, having little cutaneous transpiration, are seen lying at rest, in hot weather, with tongue protruded, and the number of respirations doubled or trebled in frequency, for the purpose of increasing watery exhalation from the lungs.

The amount of water, then, eliminated by the lungs, having been shown to be large, even in health, and the fact that increased respiration materially augments this amount, and when it is borne in mind that the respiration is always quickened during pyrexia, and notably so, as has been shown above in typhoid fever, even though accurate measurements of the exact quantity are wanting, is it not fair to assume that the increased amount of water excreted by this channel does not at the least compensate for the *apparent* decrease by the other channels, even if further investigations do not go to prove, as I believe they will, that *fever is a pathological process characterized by increased production of water in, and excretion from, the body?*

Again, Dr. Flint has skillfully noted the constant increase of the excretion of carbonic acid in fever, and has pointed out the fact that the pyrexia is more intense in adipose subjects, and that the consequent emanation is due to the waste going on in the fatty and muscular tissues. But how is one to account for the destruction of fat and consequent production of carbonic acid without at the same time admitting the correlative formation of water. For, as the fats are hydrocarbons, and their oxidation confessedly produces carbonic acid, what is to become of the remaining molecules of hydrogen and oxygen which are in the proportion to form water, unless such be actually produced?

Furthermore, it has been considered that the parenchymatous degeneration of the muscular tissues in fever is in reality a fatty degeneration.

If this be so, we have the body, by its very processes of decay, providing new stores of adipose tissue for oxidation and consequent conversion into carbonic acid and water. Again, may not the thirst (which is a pretty constant symptom of fever, and which is possibly caused by the retention of the chloride in the body, their excretion being diminished under this condition) be due to the excessive elimination of water? It is always so in health, and why not then in disease? Finally, although Dr. Flint does but merely touch on the action of the nervous system as a factor in pyrexia, and although it is not definitely settled whether there be a heat-centre or not; yet the best modern thought tends to that opinion, and if it be so, the future investigators may here find a solution for some puzzling problem.

The experiments of Billroth and Weber show that the introduction of putrid matter and even of certain other substances into the circulation of animals produces fever. Samuel's observations seem to show that under certain circumstances the fever may be sanitary, from the fact that when the pyrexia reaches a certain point it stops the growth of micro-organisms whose original presence caused its onset.

From these theories we may learn that the heat-centre having taken cognizance of its enemy, immediately endeavors to rid the body of it, by the only means possible, namely, fever.

Whether this same fever accomplishes its object simply by the high temperature, or whether the consequent production and elimination of water from the body may not in a measure seem to wash the poison from the system, is an open question. But all this, while opening up a very fascinating train of thought, is not, strictly speaking, discussing Dr. Flint's paper, and has been introduced here almost involuntarily and simply as suggestive. It is rarely that one reads an article which gives so much pleasure at the time of perusal, and compels so much after-thoughtfulness as the one that has been chosen for our consideration this evening.

It is a paper that has taught something new to the profession, and personally I feel under obligation to Dr. Flint for having written it. One must certainly understand fever better for having read it. It makes our treatment more scientific and less empirical from the fact, that we may now better understand what are the processes going on in the body during the febrile state.

The explanation of the physiological problem involved is perfect. The important part which the production of water in the body plays in the generation of animal heat, is demonstrated in a masterly way which is absolutely convincing. In fact, there can be no criticism of his scientific facts. It is his logic that seems to me to be at fault.

It is either this, or the overlooking of the very great importance of the lungs as an excretory organ for water, together with a misapprehension of the clinical facts as to the relative amount of water actually discharged by the skin and kidneys. After proving that the production and excretion of water is closely connected with the generation of animal heat, and defining fever as an abnormal elevation in the general temperature of the body, he then assumes that the production of water in the body is greatly diminished or suppressed during pyrexia. In my opinion this is what rhetoricians would call an unwarranted assumption of the minor premise, consequently the conclusion would of necessity be erroneous. My own logical deduction from Dr. Flint's able paper would be as follows:

An essential fever is an excessive production of heat in the body, induced by a spinal morbific agent or agents, and due to excessive oxidation with destruction of the tissues of the body, and characterized by *an excessive production of water in, and elimination from, the body.*

Dr. Austin Flint.—Mr. President, I regret that I have not prepared myself to make some remarks upon the subject under consideration and to answer some of the criticisms that have been made upon the paper that I had the honor to read before the International Congress, but I have hardly any excuse to offer except that I put it off, perhaps too long, being engaged in other work; and to-day being a day when I was very much occupied, I found at the last moment time was lacking. Consequently, I have to depend on the moment for what I shall have to say.

To say that I am gratified that this important subject is brought to the notice of the Association through a discussion of my own paper, is feebly to express my feelings. I feel more than gratified and flattered at having been the means of bringing this subject before you for discussion. I have listened with much interest to the papers of the two gentlemen who have preceded me, looking upon the subject to which I have given a great deal of thought, as they do, with different eyes, approaching it in different ways, and, to a certain extent, with different habits of mind and thought, as these nearly always differ, and I am sure I have been very much instructed. If I have made a mistake or mistakes in this paper, I am only too ready to acknowledge them and happy to be corrected in a way which is so agreeable as well as instructive.

I may state that my objects in studying this disease were to carry out certain ideas that I had entertained upon the subject of animal heat, which I find at this late date were based upon an error, not a large error, but still upon an error. This error, however, led me to what I believed to be the truth.

In thinking and working upon the subject of animal heat, I tried to account for all the heat that was assumed to be actually produced in the body, and I adopted the estimate of Senator and the late Dr.

Draper, arrived at by direct observations, of four heat-units produced, per pound weight of the body per hour. Since I wrote this paper I have changed my views; and I think that the direct method presents so many difficulties in the way of correction, so many unavoidable errors that seem at the moment insurmountable, that I have adopted the estimates arrived at by the indirect method, which is to calculate the heat value of the excretions, the body being in a state of equilibrium, and assuming that that is all the heat that can possibly be produced. With this estimate it is not so difficult to account for the heat produced by the body, by estimating the heat value of the food. I now adopt an estimate of two and a half heat units per pound weight of the body per hour, instead of four. Nevertheless, I do not think that the heat produced by the body, used in warming the body, and that which is converted into force in the various movements, including the circulation, respiration and muscular movements can be accounted for without assuming that water is produced *de novo* in the organism. In studying this question since I wrote the paper, I find more and more corroboration of the fact that water is produced in the body. I do not think there can now be the slightest question, not only that water is produced in the body, but that water is produced in a very considerable quantity. Of course it is very easy to estimate the quantity of water that is taken in as drink and the quantity that is taken in with the solid food, but the great difficulty is in estimating the quantity of water that is discharged. It is easy enough to estimate the quantity of water discharged in the urine and fæces, but when it comes to the skin and lungs the difficulty is very considerable. In the observations that I made upon the pedestrian and in the experiments made upon my own person, I arrived at this by estimating the carbon discharged by the lungs, adding this to the weight of urine and fæces, then calculating the loss of weight over and above the weight of the ingesta; but in this I was forced to estimate the water from the skin and lungs together.

With regard to that part of my definition and description of fever, in which I state that it involves either a suppression or a great diminution in the production of water, I do not pretend to say that this may not be modified, as far as my own views are concerned; and probably the general views in regard to this subject will be modified as our knowledge advances, and as the relations of water to animal heat become more and more clearly understood. There are no accurate observations with which I am acquainted showing the variations in the production of water in fever. Certain observations showing the effect of work upon the production of water have been made by Pettenkofer, in his "respiration chamber," and they are accurate; but I do not know that a typhoid-fever patient has ever been put into this chamber and his excretions measured. This would be very desirable, for we are ignorant of the details of the processes by which the tissues pass away in the emaciation and loss of body weight which occurs in fever.

We know that a part of the loss is in the form of urea, carbon united with oxygen to form carbon di-oxide (CO_2), and in water; but when it comes to the details of these processes, our positive knowledge is very defective. Still, with a full appreciation of Dr. Rochester's very ingenious calculations, which are entitled to the highest consideration, it does seem to me that the difference between the increased production of water following bodily work of a severe and protracted character, and the increased production of water in fever is very considerable. There is no question about the fact that when a much larger quantity of heat than is usual is produced by work, there is a very large increase in the production of water, as is shown by increased exhalation from the skin and lungs, the respirations being very much increased in number. It has been shown by Pettenkofer, that this increase in the production of water is absolute and continues for, I think, twelve hours after the exercise has ceased.

The picture that appears before my eyes, of a patient suffering from a fever that is self-limited, is one of great interest. Here is a person lying on his bed, doing no work, incapable for the time of doing any work, and yet there is something that is consuming his body and producing a great excess of heat, and his tissues are in a measure passing away. Those tissues that remain are subjected to certain conditions, among the most important of which I conceive to be the persistent elevation of temperature. Under these conditions the tissues are undergoing degenerations. Why that occurs, how micro-organisms set up this process, I am sure I do not know, and I do not think that any one knows.

I avoided the question of nervous action in considering the pathology of fever, because I know very little about it, and could not contribute anything of value upon that subject. It is a subject which, with our present knowledge, seemed, if not hopeless, at least very discouraging. But there is one important object which I had in view, and that related to the rational treatment of fever. I believe that there is a large number of physicians who do not wish to look only to the autopsy room for the results in cases of disease. I believe there are points in disease that are more interesting than the post-mortem examination, and certainly more important to the patient. I do not pretend to have brought forward anything new with regard to treatment. Fevers have been fed since Graves. Fevers have been treated with water since Currey. Fevers would long ago have been treated with antipyrine and antifebrine if they had existed. Attempts have been made to reduce temperature with quinine, and fevers have been treated with alcohol very largely. These are well-established measures of treatment, in some minds, although all do not agree upon these points, particularly as regards alcohol. It has seemed to me that clinical experience, with regard to reduction of temperature, alimentation and the use of alcohol, pointed to but one thing. These measures of treatment in the main are good, unless contra-indicated by some complication. If they be good, can we not find a physiological reason for this fact? That is what I attempted to do.

First. With regard to the simple reduction of temperature. We have in fever as the fixed condition the production of a large quantity of heat in excess of that which is produced in health.

A large quantity of heat may be produced normally, but then the alimentation is proportionately large. In cold climates for example, a large quantity of heat must be produced in order to keep the temperature of the body at the normal standard. In fever, the heat is produced independently of external conditions, and to such excess that the actual temperature of the body is largely increased. It might well seem at the first glance, to be absurd to cool a fever patient with ice, when you cannot or do not attempt to limit the actual production of heat; and yet that is done with good effect. If we abstract enough heat from the body, however, by means which do not produce any unfavorable symptoms, so as to bring the temperature nearly to the normal standard and keep it below the point at which parenchymatous degenerations occur, we will have good results. I had in Bellevue Hospital during the past summer and fall about twenty cases of typhoid fever. They were all treated upon nearly a routine plan, which was simply this: keeping down the temperature by external cold and by internal antipyretics, feeding as much as possible, and giving alcohol when necessary. That was the routine laid down for the treatment of these cases, and they all recovered. In none of them was there any marked feature except great mildness, and so it was impossible to say whether this were due to the character of the disease or to the treatment—except in one. (I am stating this from memory, there were either nineteen or twenty cases.) There was one case, moreover, that of a German, where the temperature was very obstinate and could not be reduced by antipyrine. The rule was to give antipyrine when the temperature rose to 103 (a dose of five grains), and to repeat it in six hours in case the temperature was not reduced. The temperature had been easily controlled by antipyrine for a certain number of days, but it rose at one time to nearly 107°. The patient was then put in the "wet pack," that is a blanket moistened with tepid water and then sprinkled with water colder and colder until the temperature became reduced nearly to the normal.

This procedure brought the temperature down, and for a few days it was manageable with antipyrine. Then there was another increase in temperature and I ordered the wet pack again. The patient beckoned to me and said, "I am too weak, I cannot stand that again." Nevertheless, he was put in again and with the same effect as before. The temperature was brought down and the second time became perfectly manageable. This patient made an excellent convalescence. I do not know anything in the history of these cases that was so marked as the great craving for food which was experienced at the very earliest period of convalescence. It seems to me that the reduction of the temperature is a broad indication; and that the danger, in a prolonged high temperature, of degenerations and reactions upon the nervous system may be measurably avoided if the temperature can be reduced.

Undoubtedly, in cases where there is high persistent temperature, there are symptoms referable to some influence upon the nervous system, it is hard to tell what the mechanism of this influence is.

As regards the alimentation, it is a mere question of the quantity that can safely be introduced within certain limits. Where the system is losing weight under this merciless destruction of tissue, consisting very largely in excretion of urea, with water and carbon dioxide, this waste must be supplied, or else when the disease runs its course there can be no recovery.

There is one point, Mr. President, which I should like to enlarge upon, and that relates to the administration of alcohol.

The paper that I referred to in my address, by Dr. William Hutson Ford, that was printed, I think, nearly twenty years ago, in the *New York Medical Journal*, is simply a condensation of a paper embodying the details of a large number of experiments which he sent to a number of medical journals in different parts of the country and was unable to have published. The abstract that I refer to was sent to the *New York Medical Journal*. Dr. Lusk was at that time the editor of the *New York Medical Journal*, and he found this paper among others that had been thrown aside. I looked over these experiments with the greatest care, and there did not seem to be a flaw in them. The question is simply this: "Does alcohol exist in the normal blood?" No matter how small the quantity may be, this is a most important fact, upon which our ideas of the mechanism of the digestion of the carbo-hydrates may be found to depend. It seemed to me proven, beyond any peradventure, by Dr. Ford, that alcohol does exist in the normal blood, but in a very small quantity.

He stated in a paragraph which I think I quoted in my paper, that the production of alcohol from the carbo-hydrates is concerned in the generation of animal heat; but this was stated in a general way. It enabled me, however, to construct in my own mind a theory of the mode of action of the carbo-hydrates, a theory which is very satisfactory to me in one regard, as presenting some information in regard to diabetes, a subject which I have studied a great deal, and the pathology of which is most discouraging and unsatisfactory.

It seems that all of the sugar which is taken as food and the sugar which results from the digestion of starch, when taken into the circulation, cannot be digested or used in the system at once. The carbo-hydrates of food are taken in at stated times, and in the course of two or three hours are absorbed. They are destined to be used in a process which is a gradual process, co-existent with the general process of nutrition, and appear to be specially concerned in the formation of heat. For the reason that these susbtances are to be used in this gradual manner, they must be stored up somewhere; and it is shown that they are taken to the liver and there converted into glycogen. Such is my opinion and the opinion of many physiologists. My idea is that they are stored up as glycogen; that the glycogen is very slowly and gradually, as needed, passed out of the liver into the hepatic veins, where it meets with the ferment which changes it into sugar, and that a small quantity of sugar is always passing into the circulation; that this sugar is rapidly converted into alcohol which is readily oxydized, and this is the way in which the carbo-hydrates are consumed and concerned in the production of animal heat.

The lactic-acid theory of the destruction of the carbo-hydrates cannot be entertained. It is a simple reasoning from processes which take place out of the body as to those which it is assumed must take place in the body.

Again, where does the sugar and starch that is taken in go to, if it be not stored up in some part of the organism? In cases of diabetes, it is discharged in the urine; and in these cases the temperature of the body is nearly always sub-normal. In these cases there is progressive emaciation, because the substance of the tissues is used in the production of heat. I have carried out this theory with regard to diabetes to this extent, that I have calculated the sugar discharged in twenty-four hours and its equivalent in alcohol, and given patients alcohol in small divided doses, and thus brought their temperature up to the normal standard.

With regard to the effects of alcohol, there is no doubt of one thing: that alcohol whenever it produces the phenomena, greater or less in degree, of alcoholic intoxication, circulates as alcohol in the blood. I do not think there is any question about this fact.

I am perfectly willing to assume that in health alcohol is never useful, but when we give alcohol in disease—if my view with regard to the digestion of the carbo-hydrates stored up in the liver be correct—we are giving it in the form in which the carbo-hydrates would exist if the system were able to store them up in the liver to pour them out in the proper quantity and at the proper time; but when we find the slightest evidence of alcoholic intoxication, that is evidence that alcohol is circulating in the blood and it is time to stop it or give it in small quantities.

The rules for the administration of alcohol in fevers are as plain and unmistakable as anything can be. The only question is: "Does feeding the fever in this way increase the pyrexia or does it not?" It does not increase it, and often it largely diminishes the pyrexia. Of course the quantity of alcohol that is thus given is to be measured by the occasion. Every practical physician knows that in most cases of typhoid fever it is not necessary to give alcohol early and that it is not necessary to give it so very largely; but in certain cases it may be necessary to give it so largely as to come up to the extreme that I have mentioned in my paper, which is equal to the quantity of heat-units that would be produced by a man in twenty-four hours.

I do not assume, Mr. President, to give an explanation of the mechanism by which the microbes, if they produce fever, produce it; I simply desired in this paper to take fever as it is typically represented in typhoid fever, and to ascertain, if possible, why certain measures of treatment which do good exert a favorable influence upon the course and termination of the disease.

In conclusion I beg leave to thank the Fellows of the Association for the invitation to be present at this discussion and for the attention with which they have listened to my long and somewhat disconnected remarks.

NEW BOOKS AND PAMPHLETS.

PRACTICAL LESSONS IN NURSING. FEVER NURSING. Designed for the use of professional and other nurses, and especially as a text-book for Misses in training. By J. C. Wilson, A.M., M.D. Published by J. B. Lippincott.

NOTES ON SOME OBSCURE CASES OF POISONING BY LEAD CHROMATE. By David Denison Stewart, M.D. From *Medical News*, June 18, 1887.

A CLINICAL ANALYSIS OF SIXTY-FOUR CASES OF POISONING BY LEAD CHROMATE (CHROME YELLOW) USED AS A CAKE DYE. By David Denison Stewart, M.D. From *Medical News*, December 31, 1887.

IMBIBITION OF POISONS. By Jno. J. Reese, M.D. Reprinted from *Medico-Legal Journal.*

LETTER OF A. Y. P. GARNETT, M.D., of Washington, D. C., in reply to Henry I. Bodwitch, M.D., of Boston, Mass.

PROGRESSIVE MUSCULAR ATROPHY BEGINNING IN THE LEGS. By J. B. Marvin, M.D., Louisville, Ky.

REPORT ON PROGRESS IN MEDICINE. By J. B. Marvin M.D., Louisville, Ky.

THE TRUE NATURE AND DEFINITION OF INSANITY. By C. H. Hughes, M.D., Saint Louis, Mo.

ELECTRO MAGNETISM IN OPHTHALMIC SURGERY, WITH ILLUSTRATED CASES. By A. G. Sinclair, M.D., Memphis, Tenn.

REMARKS MADE AT A SOCIAL MEETING OF THE MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY; ITS TWENTY-FIFTH ANNIVERSARY. By B. E. Colting, M.D., Boston, Mass.

COMPARISON BETWEEN THE RECUPERATIVE BODILY POWER OF MAN IN A RUDE AND IN A HIGHLY CIVILIZED STATE. By Dr. George Harley, F. R. S., ex-Professor in University College, London.

SUPRA-PUBIC LITHOTOMY. A Historical Sketch. By Charles W. Dalles, M.D., Surgeon to Out-Patient Dept. in the Hospital of the University of Pennsylvania, etc., etc. Reprinted from Transactions of the Medical Society of the State of Pennsylvania for 1887.

THE QUARANTINE SYSTEM OF LOUISIANA. METHODS OF DISINFECTION PRACTICED. With Illustrations. By Joseph Holt, M.D., President Board of Health, State of Louisiana. An Addendum to the Report of the Committee on Disinfectants of the American Public Health Association. Submitted at Memphis, Tennessee, November, 1887.

AN EXPERIMENTAL STUDY OF THE EFFECTS OF PUNCTURE OF THE HEART IN CASES OF CHLOROFORM NARCOSIS. By B. A. Watson, A.M., M. D., Surgeon to Charity, St. Francis, and Christ's Hospitals, Jersey City, N. J. Reprinted from transactions of American Surgical Association, May, 1887.

ILLUSTRATED CATALOGUE OF MCINTOSH COMBINED GALVANIC AND FARADIC BATTERY: Office Battery, Electric Bath Apparatus, Electrodes, Solar Microscope, Stereopticon, etc., etc. Catalogue furnished by McIntosh Galvanic and Faradic Battery Co., 300 and 302 Dearborn St., Chicago, Ill.

TO WHAT EXTENT CAN WE CLASSIFY VESICAL CALCULI FOR OPERATION? With a Report of Cases and Remarks on the Different Methods Employed. By A. Vanderveer, M.D., of Albany, N. Y. Reprinted from the transactions of the American Surgical Association, May, 1887.

PHARMACY AND THERAPEUTICS.

A FEW WORDS ON CAULOCOREA. (By Abrm. Livezey, A.M., M.D., Yardley, Pa.—The constituents of this very valuable compound or elixir are, and have been, well known for some time, at least by the writer.

In my botanical walks, over forty-seven years ago, on the hills and in the valleys bordering the Delaware River on the west, between New Hope and Point Pleasant, I gathered the aletus, caulophyllum, helonias, mitchelle, etc., and read of them in old Thompsonian and botanic works before I studied medicine or graduated in the arts at Princeton, N. J. Later I was attracted to the viburnums and diacorea through my readings of journals and medical literature. I had used the first-mentioned four in their crude state, and, though I derived benefit from them, yet the taste was so disgusting to my patients that I dropped them. More recently I tried the fluid extracts, but with the richest syrups I could not mask the strong repulsive taste, especially of the caulophyllum. Valuable as they were as therapeutic agents, I had almost abandoned their use when I noticed the advertisement of caulocorea. I tried a sample bottle, liked it (or my patients did), and found it efficient. Since then, or during the past two summers (for I spend my winters, or four months in Florida), I have used two dozen bottles with the most satisfactory results. I have used it in cases of young girls in their teens, who were "irregular" in respect to time, quantity, etc., conjoined with cascara elixir or the pil. aloin comp., or compressed triturate of Wyeth to remove constipation and for other mampal effects. In cases of mothers debilitated by frequent confinements and prolonged nursing, laboring under prolapsus, leucorrhœa, and, of course, more or less engorgement of the uterus, in conjunction with Dr. Kline's medicated sachet (a ring-shaped pessary of muslin filled with astringent, anodyne, detergent, etc. substances), and vaginal injections, and made many wretched lives worth living, for they again rejoiced in health, and in those who have arrived at the dreaded menapause, climacteric period, or "change of life," and have nicely *bridged* them over this trying period of their lives. With caulocorea as the basis of treatment, aided by other "side dishes," as indicated, I am satisfied that the physician possessed of the "sixth sense" (Mitchell), or who has any "gumption" (Meigs), can do an immense amount of good with it, and with a less dose than that which is advised on the bottle. I have never given more than a large or ordinary teaspoonful three or four times a day, and a friend of mine found that a tablespoonful produced nausea or disagreeable feeling in a patient of his, and in consequence abandoned it. But when advised by me, he found positive benefit in the same case with teaspoonful doses.

I gave a bottle to a young man of rather nervous temperament, who was troubled with (and a good deal frightened about) having an occasional nocturnal emission. His digestion was not strong; troubled with flatulency and a tympanitic abdomen with an unpleasant fullness. He derived so much benefit from the first bottle that he had it doubled and went on his way rejoicing.

THE TREATMENT OF URÆMIA.—Lancereaux prescribes, to favor the secretion of urine,

Pulv. scillæ,
Pulv. scammon.,
Pulv. digital., - - - - - āā gr. ¾.
In one pill.

From four to six may be taken daily, for from five to six days.

Roland prefers the following combination, which acts on all the emunctories:

Ext. jaborandi (alcohol),
Ext. scillæ,
Resin. jalap.,
Resin. scammon., - - - - - āā gr. ¾.
In one pill.

Four or five pills may be taken daily, for several days. If preferred, nitrate of pilocarpine may be substituted for jaborandi, in doses of from 1-35th to 1-15th of a grain.—*Revue de Clinique et de Thérapeutique*, December 8, 1887.

THE ABORTIVE TREATMENT OF BUBOES.—Manning has treated twenty-seven cases of bubo successfully by injecting them every two days with a very small amount of one-per-cent. solution of corrosive sublimate. A few drops of pus are aspirated at first and replaced by a few drops of sublimate solution.—*Wiener medizinische Presse*, No. 47, 1887.

INTESTINAL ANTISEPSIS IN TYPHOID FEVER.—Bouchard has found the following formulæ useful in typhoid fever:

An iodoform mixture.

Iodoform.,	gr. 9.
Æther, sulphuric.,	ʒ 17½.
Carbo vegetab. pulver.,	ʒ 50.

Mix; and, after the ether has evaporated, add

Glycerin.,	ʒ 45.

Of this a teaspoonful may be given every two hours in half a glass of lemonade.

Iodoform in powder may be given as follows:

Carbo ligni pulv.,	ʒ 25.
Æther, sulphur.,	ʒ 17½.
Iodoform.,	gr. 15.

The iodoform most be dissolved in ether, and the charcoal added. Dose, a teaspoonful.

A salicylate of bismuth powder may be prepared as follows:

Carbo,	ʒ 12½.
Sacchar.,	ʒ 6¼.
Naphthol (β),	gr. 40.
Bismuth. salicylat.,	gr. 40.—M.

To be taken during twenty-four hours.—*Le Bulletin Medical*, December 7, 1887.

PILOCARPINE IN ACUTE AFFECTIONS OF THE RESPIRATORY ORGANS —In certain acute affections of the respiratory organs, Dr. Wyss, as quoted by the *Medical Record*, has given small doses of pilocarpine, as one-sixth of a grain, with decided benefit. A case of acute coryza is reported, with intense congestion and swelling of the conjunctiva and nares, and pharyngeal dryness. Recovery in three days under the use of one-sixth of a grain of pilocarpine at bed-time. An acute attack of laryngitis in another patient, with loss of voice, was similarly benefited. A man, aged forty-four, suffering from acute pharyngo-laryngitis, with frequent attacks of suffocation from œdematous swelling. Experienced marked relief, with restoration of voice, after the first dose of pilocarpine taken at bed-time, and had no more attacks of suffocation. A case of acute laryngo-bronchitis, with violent dyspnœa and labored respiration, was speedily relieved by a quarter of a grain dose at bed-time, and another of bronchitic asthma and hypertrophic rhinitis was similarly benefited by one nightly dose of a sixth of a grain. This patient, who had been for many years a great sufferer from asthmatic attacks, stated that no other remedy had ever given her such rapid and permanent relief.

Dr. Wyss prescribes pilocarpine as follows:

℞	Hydrochlorate of pilocarpine	half a grain.
	Distilled water	three ounces.

To be divided into two or three equal parts by the graduation of the phial. Of this, one-half or one-third is to be taken directly after having retired to bed.—*Boston Med. and Surg. Journal.*

WHEN SHALL DIGITALIS NOT BE GIVEN?—Huchard describes cardiac paralysis produced by digitalis as *digitalis asystolie*, and affirms that by the improper use of the drug it may be grafted upon valvular *asystolie*. This accident may occur:

1. When the cardiac muscle is extensively degenerated, digitalis, by its failure to secure response of the heart muscle, is a valuable means of diagnosticating this condition.

2. There are two stages of the modifications which the viscera undergo in heart diseases. One is the stage of venous engorgement, without marked parenchymatous changes; the other is the stage of sclerosis.

In the first of these conditions digitalis is of great value; in the second it is most harmful.

When digitalis is contra-indicated Huchard employs caffeine, in doses of from fifteen to twenty-five grains, daily.—*Revue Clinique et de Thérap.*, Dec. 8, 1887.

CANNABIS INDICA IN THE TREATMENT OF DIARRHŒA.—F. F. Bond and B. E. Edwards (*Practitioner*) cite testimony from several sources as to the efficiency of Indian hemp in the treatment of diarrhœa, and state that they have used it in nearly all forms of diarrhœa with marked benefit, especially in summer diarrhœa, in conjunction with morphine. They think it increases the astringent and anodyne action of morphine, and stimulates the nervous system. For an ordinary adult they generally use the following mixture:

Tincture of cannabis		10 minims.
Solution of morphine (Br. Ph.)		5 or 10 minims.
Aromatic spirit of ammonia, Spirit of chloroform,	each,	20 minims.
Water, to		1 ounce.

This quantity is to be given every one, two, or three hours, according to circumstances. No food should be taken for several hours, but a little brandy and water.—*New York Medical Journal.*

ANDROMEDOTOXIN.—De Zaayer has prepared considerable quantities of andromedotoxin from *Rhododendron ponticum*, and gives its properties as follows (*Chem. Zeit.*): It is in white, delicate, crystalline needles, melts at 228° or 229° C., soluble in alcohol, amylic alcohol, chloroform, ether and benzol, and less soluble in hot than in cold water. The solutions in water, alcohol and amylic alcohol are lævogyre, while a solution in chloroform is dextrogyre. It yields alkaline solutions, is not precipitated by the alkaloidal reagents, nor by solutions of metallic salts; it does not reduce Fehling's solution. When heated with dilute sulphuric, hydrochloric, or phosphoric acid it assumes a beautiful rose color, the shade varying somewhat with the acid used. $C_{31}H_{51}O_{10}$ is the formula assigned to it.—*Druggists' Circular and Chemical Gazette*, October, 1887.

CRYPTOCARYA AUSTRALIS.—The physiological action of *Cryptocarya australis* has lately been investigated by Dr. Bancroft, of Brisbane. This small tree belongs to the natural order of Laurinæ, and is plentiful about Brisbane. The bark has a persistently bitter taste, due to the presence of an alkaloid which crystallizes from its solution in stellate masses of acicular crystals. When administered to warm-blooded animals the alkaloid produced difficulty of respiration, ending in asphyxial difficulty and death. It also had a poisonous action on cold-blooded animals belonging to the reptilia.—*Pharmaceutical Journal and Transactions*, October 1, 1887.

ARSENIATE OF LITHIUM is recommended by Dr. Martineau in diabetes in the following form: Carbonate of lithium, 3 grs.; arseniate of sodium, $\frac{1}{10}$ gr.; carbonic acid water, 2 pints. Solution is effected under pressure. The effervescing liquid is taken mixed with claret, the foregoing dose to last for at least three days, being taken at the two principal meals of the day customary in Paris. No change of diet is necessary. Dujardin-Beaumetz and others are skeptical about the value of this treatment, but it is simple and easy, and when the patient is not dangerously ill it will do no harm to try it.—*Technics.*

INHALATION FOR ACUTE CORYZA.—Fritsche, of Berlin, has found the following useful:

℞ Acid, acetic, glacial.	
Acid, carbolic., - - - -	āā gr. xxx
Mixt. oleoso balsam, - - - -	ʒij
Tr. moschi, - - - - -	*m*xv
M.	

Fifty drops of this may be put upon cotton and inclosed in a convenient flask. Inhalations at first every half hour, and later at longer intervals for ten minutes, will be found beneficial.—*Berliner klinische Wochenschrift.*

FLUID EXTRACT OF QUEBRACHO is claimed by Bourdeaux (*Arch. Méd. Belges*) to be a useful application to burns, ulcers and frostbites. It dries in the course of half an hour, forming a tough and very adhesive brownish crust, which can be removed only with the aid of warm water, and cicatrization advances rapidly.

Iodoform Wicking.—Gersung, of Vienna, has found wicking impregnated with iodoform an excellent material for tampons in the drainage of wounds whose secretion is moderate; in Billroth's clinic wicking saturated with tannin and iodoform is used with excellent results. Its removal is much less painful and inconvenient than that of gauze.—*Centralblatt für Chirurgie.*

The Therapeutic Value of Boracic Acid.—Recently much has been written concerning the value of boracic acid in leucorrhœa and in gonorrhœa of the male and female.

The merits of this agent have long been recognized in ophthalmalogical practice, and it has been lauded greatly in the treatment of inflammations of the lining membrane of the bladder.

As an antiseptic its claims are established. It is said to possess no value as a germicide.

A three per cent. solution is the one usually prescribed in all departments. In weaker solutions than this its antiseptic effect is said to be not so marked. Its use in the treatment of nasal catarrh is also worthy of mention. We have prescribed it in this condition in the strength of a teaspoonful of the powdered acid to a pint of warm water. Three or four tablespoonfuls of this are to be poured into each nostril two or three times a day. We often prescribe it in this condition also in the following combination:

℞	Cocaine hydrochlor, - - -	gr. ij
	Acidi boraci, - - - - - -	gr. xv
	Listerine, - - - - - -	ʒi
	Aquæ destill, - - - - -	ad ℥i

M. D. Sig. Use as a spray for the nose morning and night.

MISCELLANEOUS.

An Important Advance in Surgical Dressings.—Dr. Ernest Laplace, of New Orleans, has since last March been working in Berlin under the direction of Dr. Koch. He has been engaged chiefly in bacteriological investigations, and one result of his labors will, no doubt, have great influence upon the future of surgical dressings.

Bichloride of mercury, demonstrated by Koch in 1881 to be the best of antiseptics, did not do all the work that had been anticipated for it in surgery. It was found that as soon as a sublimate solution came in contact with an albuminous fluid, the albumen coagulated and formed, with the bichloride, a precipitate which had lost all disinfectant properties. Dr. Laplace proved by a series of experiments that not only is the precipitate devoid of disinfecting power, but also the supernatant liquid. In order to retain in dressings all the virtues of the sublimate, Dr. Laplace perceived that it would be absolutely necessary to prevent the formation of such a precipitate. After many fruitless experiments he found at last the principle of the action which he was seeking, namely *the addition of an acid to the solution of corrosive sublimate;* such an acidulated solution *will not form an insoluble albuminous precipitate.* Dr. Laplace usually added five parts of hydrochloric acid or tartaric acid to a thousand parts of a solution of corrosive sublimate (1 to 1000), though occasionally he substituted tartaric or carbolic acid. Of this acid solution Dr. Laplace says that

1. It makes no deposit of sublimate after standing (as all the sublimate solutions do), thereby retaining a permanent strength;
2. When brought in contact with an albuminous fluid, the albumens will remain in solution, and the whole strength of the solution of sublimate will be obtained as in non-albuminous fluids;
3. An acid medium is unfavorable to the development of micro-organisms.

The addition of an acid to a sublimate solution also *increases its disinfecting powers,* so that a much weaker solution is required.

The discovery of Dr. Laplace made such an impression on Dr. Koch and his co-worker, Dr. Lœffler, that the latter made a report on the subject before the International Congress of Hygiene and Demography. Dr. Levine, the famous syphilographer of Berlin, is making a series of experiments with the acidulated solution in the treatment of syphilis, giving it hypodermically.

Laplace's solution will be found very serviceable in the treatment of ulcers, for he has discovered that the ulcerous surface can be disinfected, that is, freed from micro-organisms, after which the parts heal *without suppuration.*

One case which Dr. Laplace treated was a case of *ulcus perforans* on each foot of many years standing. The ulcers were thoroughly cleaned, and in about a week he succeeded in freeing the surface from micro-organisms by constant disinfection with the acid sublimate solution; two weeks later the ulcers were entirely healed.

Antisepsis is perhaps the greatest stride that modern surgery has taken. The precipitation of the bi-chloride by the albuminoids has been a fruitful source of unfavorable results after operations, and has prevented surgeons from obtaining the full benefits of antisepsis. Dr. Laplace's discovery, by avoiding this coagulation, will materially enhance the value of the greatest of antiseptics, and make more certain the happy results of serious surgical operations.

For the treatment of fresh wounds Laplace recommends washing and irrigation with the following solution:

℞ Sublimate, 1;
Acid, tartaric., 5;
Aqua, dest., 1000.

The bandage should be prepared with—

℞ Sublimate, 5;
Acid, tartaric., 20;
Aqua, dest., 1000.

—*New Orleans Medical and Surgical Journal.*

THE chrotograph is a pencil manufactured in Germany for writing on the skin. It is made in various colors and affords legible writing, which can be easily removed without the use of water. It is designed for the use of physicians to make memoranda upon their patients.

TREATMENT OF CHRONIC ABSCESS BY IRRIGATION.—In his address before the British Medical Association, Dr. Hamilton described the following method of treatment of chronic abscesses: A long, curved trocar and cannula are pushed through the abscess and made to transfix it four or five inches; a piece of rubber tubing with a single hole about the center is drawn through the cannula by a thread connected with the cutting end of the trocar; the aperture in the tube being lodged midway between the wounds, the cannula is removed. One end of the tube is attached to an irrigating can hung above the patient's bed; the other end leads to a reservoir at the bedside. By means of a stopcock the flow can be regulated as desired, a flow escaping drop by drop being sufficient to keep the contained fluid and the wall of the abscess aseptic. Distention of the sac can also be made when desired by compressing the exit portion of the tube. He considers a solution of chloride of zinc (1 to 200), the best antiseptic to employ, maintaining that he has obtained the best possible results from this in spite of the assertion of Koch that chloride of zinc is inert as a germicide. He believes that if it does not kill the germs it renders a surface a barren cultivation field. After about a week the abscess wall has undergone such decided alteration that continuous irrigation is not necessary, but occasional syringing is sufficient for the perfect healing of the cavity.

SEVERAL cases of nutmeg-poisoning have been noted in the *British Medical Journal* during the past summer, the reporters all alluding to the scarcity of information on this subject in works on toxicology. A whole nutmeg was taken in four of the cases reported in the *British Medical Journal*, and five whole ones in the remaining case. The following is related in the *Australasian Medical Gazette*, and is regarded noteworthy, first, for the small quantity (rather over half of an ordinary-sized nutmeg) which produced the symptoms, and secondly, for the very marked effect on the heart and circulation.

The patient, a strong, healthy woman, grated the nutmeg, and mixed it with a glass of hot ale, which she drank at bedtime. An hour after, she felt some nausea, but got to sleep. Awakened about two A. M., feeling very cold and with a sensation of pricking in the skin, and with her " heart beating at racing speed." When Dr. Pinnock, of Victoria, saw her, two hours later, the surface of the body was everywhere cold and pale; pupils dilated, respiration sighing, and pulse almost imperceptible and uncountable. The doctor gave her hot brandy and water immediately, and mustard applications to epigastrium and extremities; also a mustard emetic. As this did not act, he gave her about fifteen minutes subsequently, one-tenth grain apomorphia, which produced free vomiting in a few minutes. The vomited fluids contained nutmeg unmistakably. After this the pulse strengthened, became more steady, and warmth returned to the surface. Much drowsiness continued: and, after taking some more hot brandy and water, she went to sleep. Next day she was much better, and the day after was fully recovered, and able to attend to household duties.—*Pop. Science and News.*

THE EDITORS have been requested to publish the following letter from Dr. Fauvel, which appeared in the *N. Y. Med. Journal* of a recent issue:

13 RUE GUÉNÉGAUD, PARIS, *December* 8, 1887.

SIR: Will you kindly have it announced in your journal, in justice to myself before the medical profession, that the various notices appearing in journals and circulars quoting my name in connection with coca are entirely false and in every respect a prevarication. The only preparation of coca employed by me with undoubted and uniform success has been the so well-known *vin Mariani*, which, since 1865, I have had occasion to prescribe daily in my *clinique*, as well as in private practice. My opinion of this valuable medicament, together with those of many of my confreres, has during many years been frequently made known for the benefit of the profession in various writings, and it is but just to this worthy preparation that it receive all honor due. I thank you for compliance with my request.—CH. FAUVEL.

DR. NITZE of Berlin has devised an instrument he calls a kystoscope, for viewing the cavity of the bladder, combining an ingeniously arranged electric light with an endoscope. This was tried by Von Bergmann in a case of tumor of the bladder, and spoken of with much praise, as being easily introduced, and not distending the urethra or neck of the bladder more than a large-sized catheter, and in his case not occasioning any hæmorrhage. The bladder is made to contain a certain quantity of transparent fluid, thus opening the folds of its mucous membrane, and allowing all portions of its surface to be brought into view. The field at once visible is as large as a silver dollar; and by changing the position of the mirror in the kystoscope, the entire surface may be quickly inspected, and any abnormal condition disclosed. By the use of cocaine its use is rendered painless, and danger from heat is obviated by a circulating current of cold water. It is expected by this instrument to supersede incisions and severe procedures for purely diagnostic purposes, and to enable one to view the actual state of the cavity of the bladder, and the size and shape of tumors or stones within.

IN a recent number of the *Annales de l'Institut Pasteur* M. Chamberland has published a very interesting paper concerning the influence of some essences on bacteria, and especially on the *Bacillus anthracis.* From his experiments some do not interfere with the bacillus—such are iris, matico, parsley, pepper, rose, and vetiver essences—but most of them do interfere, and some kill the bacillus completely, such as geranium, origanum, vespetro, *Archangelica*, etc. M. J. Bardach contributes also a paper showing that the milk of a rabid woman, when inoculated to rabbits, confers rabies, although it does no harm to the child nursed by her. But the passage of the rabic virus in the milk is not a constant fact, as has been shown by experiments in Pasteur's laboratory. It seems, from experiments performed in this laboratory, that the rabic virus may exist in the tears, spleen, and other glands or secretions.—*Pop. Science and News.*

REGENERATION OF NON-STRIATED MUSCULAR FIBRE.—Stilling and Pfitzner have contributed a study of this subject to the *Archiven für mikroscopische Anatomie*, in which they say that when some of the little shreds of the muscular tunic of the stomach of the triton are removed, a coagulum is immediately formed and loss of substance is thus prevented. Examination of this coagulum reveals leucocytes in great numbers, and red blood corpuscles in various stages of degeneration and destined to disappear in a few days. The large nucleated flat cells of the peritoneum are reproduced by karyokinesis, and leucocytes play no part in regeneration. The leucocytes degenerate, while the connective cellules for about two months show karyokinetic figures under the microscope. Finally there is a new formation of smooth muscular fibres; the nucleus of the fibre segments itself, by karyokinesis and the muscular cell, follows this evolution, afterwards separating by segmentation at the longitudinal centre. Each tissue is therefore reproduced by isogenesis. These experiments and statements confirm those of Jakinowitsch.

ANTISEPTIC TREATMENT OF INTESTINAL AFFECTIONS.—In an article on Intestinal Antiseptics, by D. N. Kinsman, M.D., appearing in the *Journal of the American Medical Association*, July 3, 1886, the author points out that the natural processes of fermentation and putrefaction going on in normal digestion are so changed in dyspepsia and other forms of intestinal disease as to produce poisonous alkaloids, which are the cause of the symptoms developed in such disorders.

The researches of Dr. Vaughn, of the University of Michigan, in which tyrotoxicon has been shown to be the cause of ice cream poisoning, which are still fresh in the minds of medical readers, have thrown still more light on the etiology of intestinal affections, and made apparent the importance of intestinal antisepsis as a method of treatment.

To facilitate such treatment we learn that Parke, Davis & Co. have recently added to their list an Intestinal Antiseptic Pill, the formula of which is as follows: Mercury Protiodide, 1-8 gr.; Podophyllin, 1-16 gr.; Aloin, 1-16 gr.; Ext. Nux Vomica, 1-16 gr.; Ext. Henbane, 1-16 gr.

RICHELOT, of Paris, lately read to the Société de Chirurgie the report of a case in which congenital malformation of the lower jaw rendered mastication impossible. The doctor made a resection of the lower jaw and took away, by the aid of Liston's pincers and a perforator, about two centimetres of the bone at the level of the left bicuspid teeth, making a suture with silver wire, and exact coaptation of the fragments, adapting the canine-tooth part to the molar portion. This operation was made by the mouth, to prevent exterior cicatrix; but owing to insubordination of the patient and hysterical attacks, union of the bone did not take place, and she left the hospital with a false joint.

Some two months later the girl was received by M. Routier at the Laennec Hospital. Routier operated by an incision made on the inferior border of the jaw; removing the fibrous tissue, scraping the fragments, and introducing a portion of calf's bone taken from the animal just killed, and immobility was secured. The reunion was made without difficulty, and bony consolidation followed. Two months later the patient was quite well, being even cured of her hysteria, as well as able to use her jaws.

M. Richelot added that he was disposed to try putting a slip of animal bone between the fragments in similar cases hereafter, as he saw the perfect consolidation that was obtained after his failure by suture, perforation and the usual method.

THE Société de Psychologie Physiologique is at present engaged in a very interesting study concerning hereditary transmission, especially from the mental standpoint. It has prepared, with the co-operation of De Candolle, of Geneva, and M. Taine, the eminent philosopher, a summary of questions to be answered, which enable each person to carry on the investigation on himself and his parents or children. The questions refer in each case to social and religious standing, to physical, physiological and pathological features of the person upon whom the investigation is carried, and to the moral and intellectual state. The point upon which the investigation bears mainly is the presence or absence of a very strong likeness in any department between parents and children, either young or grown up. The investigation is a very interesting one, but I really do not know whether it will place any new facts in light. It may confirm many hitherto vague statements and opinions, but it is improbable that it will do more. At all events, this is well worth having.

MECHANISM OF DEGLUTITION.—Many of the theories, until recently held, concerning the functions of various parts of the body, have been greatly changed by a closer examination into physiological facts. A number of researches carried on by Kronecker and his pupils (notably Meltzer) have radically changed this idea of the process, and have shown it to be a most complicated proceeding. Experiments of various kinds have been made, which render it evident that the important force in swallowing must be produced by the quick action of striped muscles.

Various considerations made it clear that the chief muscles acting as factors in this proceeding were not the pharyngeal constrictors, but the mylo-hyoids. Muscles of the striped variety, acting as accessories, are shown to be the longitudinal muscular fibres of the tongue and the hyoglossi.—*Weekly Med. Review.*

ANTIPYRINE IN ACUTE BRONCHITIS OF CHILDREN.—For some months innumerable articles have appeared in current medical literature discussing the physiological and therapeutic action of antipyrine. That the drug has a wide range of usefulness is an undoubted fact. There is little doubt but that the drug will obtain a permanent place in therapeutics, but we need much more exact information in regard to the indications for its use. It is surprising, as Friedländer points out in a late number of the *Therapeutische Monatshefte*, that among so many articles describing the action of the drug, so few have appeared which consider its usefulness in the diseases of children. Friedländer has observed with care the indications by which the usefulness of the drug can be gauged in individual cases of acute bronchitis in children.

If the cases of bronchitis are classified according to their amenability to antipyrine, two groups must be formed, the first embracing those that are most benefited by the drug, and the second those that receive little aid from it. The first group embraces those who have a temperature of 104° F. (40° C.) and who are well nourished; the second those that have a moderate temperature, 102° F. (39° C.), or less, and who are not well nourished. Both classes are aided by antipyrine treatment, but the former much more so. Usually after the administration of a dose the little patients break out in a profuse perspiration, the temperature falls, they sleep for an hour or so and awake with a feeling of well-being. The cough is usually looser and the breathing easier. The dosage recommended is for children under five and over two years, 12 or 13 grains (0.9 gms.). Its effect will continue from twelve to fifteen hours, and therefore two doses must be given daily. To a child two years old or less, 7 grains (0.5 gms.) may be given, but only one dose will be needed in the twenty-four hours. During convalescence one-half of the above-mentioned quantities are given at a time. The treatment of acute bronchitis among children by antipyrine as recommended by Friedländer does not include the simultaneous use of expectorants.

POSTHUMOUS DELIVERY, (By Walter Coles, M. D., Prof. of Obs. and Operative Midwifery, Beaumont Hosp. Med. Coll.)—Authors differ widely as to the length of time at which asphyxia may be overcome and the child restored. Most of us have doubtless seen resuscitation take place after the lapse of many minutes, and hope should never be abandoned as long as there is the slightest heart-beat. Most cases prove hopeless after fifteen minutes, but the numerous authenticated exceptions, where respiration has been established after much longer periods have elapsed, should encourage persevering effort, and lead us to give the child the benefit of the doubt in all cases where the death of the mother is well established. It is probable, owing to the temperature of the mother's body, that the asphyxiated child will retain its vitality much longer within the uterus than outside of it. Aveling believes that the child may thus survive in the womb many hours after the death of the mother. Villeneuve, of Marseilles, in a published paper in 1862, reports a number of cases in which it was ascertained that children survived during astonishingly long periods. Four were saved by the immediate performance of the Cæsarean operation. Five were extracted alive after a lapse of ten to thirty minutes. Two children were saved after the mother had been dead two hours, one after two and a half hours, one after three hours, and one after four and a half hours.

In referring to these latter cases, Tarnier remarks: "Although the operation is generally useless at a later moment, it ought, nevertheless, to be performed, because some cases, whose authenticity I cannot vouch for, would seem to prove that the child's life may remain intact for ten, fifteen, or even twenty-four hours." Charpentier, one of the latest French authorities, is disposed to discredit these cases, however, and claims that none of them are sufficiently authentic to merit belief.

In all cases when it becomes necessary to effect post-mortem delivery we have the choice of two methods: we may resort to hysterotomy or else to forcible delivery through the natural passages. When death occurs during labor, and we find the os well dilated or dilatable, we may readily perform version, or if the head be within reach, forceps may be applied. The distressing circumstances requiring either operation will often prompt friends to interfere and prevent any interference on the part of the physician. His duty, however, is plain, and nothing should deter him from at least urging an immediate operation if he is satisfied that the woman is dead, and that there is hope for the child. By far the simplest and safest method of rescuing the child is by laparotomy, but this may be interdicted by friends who, at the same time, might not object to an attempt *per vias naturales.*

In choosing between these methods of delivery it should not be forgotten that several instances are recorded in which the terrible blunder has been committed of opening women who were not really dead.

Some writers have gone so far as to advise a resort to forcible delivery whenever the mother is *in extremis.* Such an idea, however, except under peculiar circumstances, is revolting, and should be repudiated. We quite agree with Charpentier when he says, should the woman be *in extremis:* "Respect her condition, and do not hasten her end by maneuvers which may not save the child. Once the mother is dead, however, act quickly in the interests of the child.—*Weekly Med. Review.*

THE DEAD FAILURE, LIMITED.—Mr. Edward Garraway, in the *Edinburgh Medical Journal* for August, in an amusing, but most interesting paper, sets forth his intention to establish a new medical journal, for which it seems to us the sole remaining unoccupied niche in medical journalism remains open. He says: "The title of my venture would be 'The Dead Failure, Limited.' Ignoring the maxim that 'Dead men tell no tales,' my book would be made up of nothing but dead men's tales.

"The journals of the day teem with the triumphs of medicine and the exploits of surgery. Everybody records his successes and narrates his victories, till at length one begins to wonder how it comes about that anybody ever dies. People, nevertheless, do die, apparantly from sheer perversity, or, as our transatlantic brethren might more pertinently put it, from 'pure cussedness.' Certainly, if we believe, it is no more the fault of the medicine men of the present generation than it was in the days of the celebrated Dr. I. Lettsom, who, you may remember, in allusion to his unhappy patients, is said to have written:

'I physics, bleeds, and sweats 'em;
If after that they chance to die,
It's not my fault—I. Lettsom.'

Now 'The Dead Failure, Limited,' is intended to search out 'the reason why.' It will have nothing to do with cures and recoveries. Defeats and disappointments, whether brought about by negligences and ignorances, sins of omission or commission, errors in judgment, or deficiency in tact—no matter from what cause—unsuccessful cases will alone be admitted. Ah! what rocks, what shoals, what quicksands we might avoid, if every man would raise a beacon where he has suffered shipwreck, instead of glorifying himself, as is his wont, when he has ridden through the storm, or favorable gales have wafted him into port! One prominent and valuable feature of the contributions would be their emanating from the Nestors only of our profession, the most diligent inquiries amongst young practitioners serving but to show that *they* never *do* meet with failures, and never make mistakes."

Following this are some "specimen pages" from such a journal, describing, for instance, errors in the diagnosis of eruptive diseases, especially small-pox.

Of the other instances of mistaken diagnoses we have room for but one, namely stone in the bladder.

"Who," asks our author, "cannot diagnosticate stone in the bladder? Who does not know the characteristic 'clink'? But does everybody know that the clink may be there without the stone? A young lady got retention of the urine. Of course in young ladies the element hysteria has always to be taken into account, and one should be slow to introduce the catheter for the first time, for who can say where or when such a proceeding may end. All other measures failing the patient must needs be relieved. On passing a silver catheter, a click was heard and a concussion felt as its point entered the bladder. Not hastily convinced, I waited till the next day, when the retention recurring, I audibly and sensibly struck the calculus. The young lady's friends were apprised of the nature of the malady and of my hope that without any operation the stone might be removed. Dilatation of the urethra was gradually effected until the forefinger could be swept over the whole internal surface of the bladder, and behold that viscus was empty. Then, and not till then, did it occur to me how often, in turning off the water at my surgery tap, I had heard and felt precisely the same concussion. The conditions were analogous. As the catheter entered the full bladder, the urine came down the tube with a rush, giving a shock as it impinged upon the head of the stillette at the other extremity. Some balm was dropped upon my wounded pride by afterwards hearing from my friend, Dr. Lund, of Manchester, that he had been similarly deceived, and went so far as boldly to cut into the bladder, and more boldly and bravely still, to publish his mistake in his valuable Hunterian lectures of the following year.

"Well, now for the sequel, irrelevant, perhaps, but amusing and edifying withal. Incontinence, you will say, resulted from my uncalled-for proceeding. Nothing of the sort. That young lady and I and the catheter kept company for a year and a half; at first twice a day, after a time once, then every other day, every third day, and so on, till at the end of sixteen months I managed to get her sent away from home, retention at that time recurring but once a week; and it was understood that every Tuesday morning I should travel eighteen miles by rail and three across country to the relief of my patient, take luncheon, and return.

"What confounded humbug! some will exclaim. Well, it was confounded humbug, but assuredly not of my creating. Very early in the case I protested, at length became obdurate, refused to pass the instrument, leaving the unhappy girl for two days and two nights. At the end of this period she plunged into a convulsion, during which the urine escaped, and from which she emerged with paralysis of the right arm—hysterical, of course—but paralysis nevertheless. The friends scarcely forgave my inhumanity, and the catheter routine went on as before."

MEDICAL NEWS AND NOTES.

Apoplexy of the severe type should be treated by compressing the carotid of the affected side, says Mr. Leonard Braddon, and in this way hæmorrhage arrested. If the coma continues he suggests trephining to relieve the intracranial pressure.

Cruel Methods of Vaccination.—Sir Joseph Hooker has written a letter to the London *Times*, in which he draws attention to the "heroic but cruel method" of vaccination now pursued, which he thinks has much to do with the prejudice against the operation. He appends some interesting notes from the pen of a daughter of the late Dr. Rigby, from which it appears that a single puncture, instead of multiple punctures, was formerly deemed sufficient as a protective against variola. Dr. Rigby was a friend of Jenner, and worked with him. He also maintained that a single puncture was less likely to be attended with inflammation than would be multiple punctures.

AT A MEETING of the Clinical Society of New York, Dr. Frank Hartley mentioned the case of a boy, ten years old, who presented an entire third arm on the right side. The scapula of the supernumerary arm, however, was wanting. The parents were healthy, and were not consanguineous; yet, of the children, one had a mole, another had Pott's curvature of the spine, and the third showed the remains of a spina bifida.

"GOLDEN'S LIQUID BEEF TONIC" is endorsed by a great many leading *practitioners* of America who have used it with remarkable beneficial results. It should be encouraged by the profession.—From DR. L. B. EDWARDS, Editor *Medical Monthly*, Richmond, Va.

A WOODEN case containing a complete set of surgical instruments, many of which are similar to those used at the present day, was a recent discovery at Pompeii.

THE curvature of the earth is such that a straight line a mile long would be 2.04 inches from the surface at either end.

—THERE is a mind cure medical college in Rutland, Vt., which issues diplomas. Its graduates can use the letters M.D., after their names, and say that they mean Mind Doctor.

MR. CLEBE JOWERS, a medical student from Georgia, informs us that he saw an interesting case near his home in Preston, Ga. The subject is a strong negro, a farm laborer, aged 55, who has not passed any fæces by his bowels for the last five years. All fæcal matter seems to be eliminated by the skin, for he gives off an extremely offensive odor. The negro said that all the purgatives he had ever taken failed to open his bowels.—*Atlanta Med. and Surg. Jour.*

"PERHAPS as weird an organization as history records is the 'Sudden Death Club,' of Philadelphia. The society is composed entirely of men who have heart disease, or some other malady which is likely to cut its victim down without much warning.

"The club, like each of its members, has no constitution. Its function is to provide a dinner, now and then, to the afflicted beings who wish to eat, drink, and be merry in spite of physical infirmities.

"To many persons the news that such an organization has been started in Philadelphia will prove astonishing. It is a very general impression that anything characterised by haste, such as sudden death, is not likely to receive recognition in the slow-going decorous Quaker city.

"Now, however, that the 'Sudden Death Club' has had its origin in so select and conservative a locality, it is likely to meet with imitation in other places. In the light of this contingency it will do no harm to make a few suggestions as to the kind of dinner which should be placed before men afflicted with heart disease.

"It might be well, perhaps, to start out with a soup highly flavored with digitalis. This would make the guests feel at home and invigorate those afflicted with hypertrophy of the heart. Then let a sauce made of aconite go with the fish to prove to those laboring under functional disorders of the heart that they are not neglected.

"The remaining dishes of the dinner should be flavored with a view to emergencies. Let the waiters be instructed, for instance, to serve a guest showing signs of an inclination to make a speech a salad made of valerian or some other anti-spasmodic remedy. Asafœtida is useful in such a case, but is considered rather too gamey by connoisseurs. There is no necessity for developing this subject further. The outline given above should serve to place all 'Sudden Death Clubs' on the right track as regards what may be called cardiacal gastronomy."—*N. Y. World.*

IT IS announced that the Dr. J. M. DaCosta, of Philadelphia, will deliver the next Middleton Goldsmith lecture under the direction of the New York Pathological Society.

A MOVEMENT has been inaugurated in Berlin, looking to the erection of a statue to Van Langenbeck.

THE SOUTH CAROLINA MEDICAL SOCIETY recently celebrated its ninety-eight anniversary. Dr. Manning Simons was elected President for the ensuing year.

DESPERATE.—*Physician* (to patient).—Your case is a very serious one, sir, and I think a consultation had better be held.

Patient (too sick to care for anything)—Very well, doctor; have as many accomplices as you like.—*Med. Progress.*

DR. MIDDLETON GOLDSMITH, of Rutland, Vt., bequeathed his library of five thousand volumes to the New York Academy of Medicine.

NEW METHOD OF REDUCING DISLOCATION OF THE SHOULDER.—Dr. P. F. Abril inverts the usual procedure for reducing a dislocation downwards of the humerus, by fixing the bone and making the glenoid cavity descend on the humeral head. The patient is made to stand with a crutch in the axilla; the surgeon holds the hand of the affected side, and makes slight downward traction; the patient now lets his body down, as if he were going down on his knees, and by the pressure on the head of the humerus it is slipped into place. Abril claims that the method is simple, and easily and quickly done, not needing anæsthesia to produce muscular relaxation, and no assistance is required.—*El Genio Medico-Quirurgico*, Oct. 31, 1887.

JUST as we are going to press, we learn that the House Committee of the Legislature has reported almost unanimously, *adversely* on the petition of the students of the Medical College of Virginia and *favorably* on the resolution of the State Medical Examining Board, as endorsed by the Medical Society of Virginia. A well considered provision in the report also provides that in the rare emergency cases that may arise by reason of sickness or other inability of the candidate to appear before the Board in session—" said emergency to be determined by a committee of the Board in each case "—then the candidate may be examined by a *committee* of the Board in session, said special committee to be appointed by the President of the Board with reference to the conveniences of locality, etc. Such a provision, it seems to us, meets every reasonable objection that can be raised against the desired change in the law.—*Va. Med. Monthly.*

MR. BALFOUR STEWART, a distinguished English physicist, died recently at the age of fifty-nine years.

DR. C. T. PARKES has succeeded the late Dr. Moses Gunn in the Chair of Surgery in Rush Medical College, Chicago.

DR. A. D. ROCKWELL has just been appointed to the Chair of Electro Therapeutics in the Post Graduate School of Medicine of New York. This institution is to be congratulated on such an accession to its corps of teachers.

EDITORIALS.

A NOTABLE SCENE was enacted at the University of Virginia, on December 21, 1887, which is well worthy of more than passing attention. On that day James L. Cabell, M.D., LL.D., Professor of Physiology and Surgery in the Medical Department of the University of Virginia completed fifty years of continuous professional service in that institution. This event was commemorated by the presentation to him, on the part of his colleagues and former pupils, of a solid gold goblet appropriately engraved. This was accompanied by an address on vellum. The students of the present session also gave him a handsome desk with revolving top. The following are the inscriptions on the goblet (on the front of the cup), beneath the coat of arms of Virginia.

" Presented to Dr. James L. Cabell, Professor of Physiology and Surgery in the University of Virginia, by his colleagues and his former pupils, with kindest regards and best wishes, in commemoration of the completion of fifty years of continuous professional service in the University."

(On the back of the cup), beneath a monogram of the letters J. L. C.

" Nihil opinionis causa, omnia conscientiae fecit."

(On the foot of the cup.)

" December 21st, 1887."

In the language of Dr. Wm. C. Dabney of the University of Virginia, in which we heartily concur, "few men in this day and generation have been as universally honored and esteemed, and it may be safely affirmed, I think, that no one in our profession has done more to elevate the standard of medical education." It is certainly meet and proper that this distinguished physician and successful teacher should thus be honored. If we should express what we owe to Dr. Cabell, our former teacher, the language appropriate might seem that of exaggeration. Says one of the most eminent scholars of this country: "In every grade of teaching, it is perhaps even more important to consider what your teacher is than what he knows." And such is the character of Dr. Cabell that in his teaching the impress upon the minds of his pupils has ever been of an elevating and ennobling kind, which has borne good fruits in after life. May he long be spared to be an ornament to his profession and to the chair which he has so ably filled at the University of Virginia!

THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK.—The annual meeting of this association was held at the Academy of Medicine, on Wednesday, January 18, 1888, in this city. The President, Dr. W. H. Baker, of Boston, occupied the chair. In the morning session papers were read by Dr. G. A. Kletsch, John G. Perry, A. Palmer Dudley, and P. F. Chambers, of this city. In the afternoon, papers were read by Drs. E. L. McGinnis, of New York, A. H. Brockmoster, of Brooklyn and T. Addis Emmet. From the character of the papers and the discussion which they severally elicited it may be affirmed that the society is destined to have a healthy and vigorous life. Dr. George Tucker Harrison was elected President for the ensuing year, and Dr. Ernst F. Tucker, Secretary.

Dr. Baker entertained the members of the Association by a luncheon at Delmonico's, which was a very enjoyable occasion. In the evening they were invited to meet the Obstetrical Society, at Dr. T. Addis Emmet's hospitable house, beneath whose rooftree they spent a most delightful time.

THE CONTAGIOUSNESS OF LEPROSY.—M. Bernier has recently read a paper on the nature, origin and propagation of leprosy, before the Académie de Médicine, in Paris. M. Bernier is inclined toward the view of its contagiousness and advocates strict isolation as a means of "stamping out" the disease.

The opinions of authority on the question of the contagiousness of leprosy are not unanimous. M. Bernier has related several cases in which leprosy was transmitted directly from one person to another, and whatever may be the amount of the negative testimony on this subject, these few cases of positive testimony demand the attention of medical men and of the commonwealth. In 1867 the College of Physicians in London published a report on leprosy in which the non-contagiousness of the disease was advocated. From that time medical men, for the most part, formed their opinions on the force of this edict. Facts have been accumulating, however, ever since that time which throw strong doubt upon the correctness of that decision.

It is a well recognized fact that leprosy is not as prevalent now as it was in the middle ages in any country. The disease is extremely rare in this country, and it has been stated that no case of authenticated contagion from leprous foreigners has ever been reported in the United States.

The cases which have been reported here have come from the North of Europe, China or South America. Whenever the disappearance or the diminished frequency of leprosy has been noted, the disappearance or diminution has been *pari passu* with segregation. Leprosy is spoken of in the Holy Writ more frequently than any other disease and must have been a scourge in the time of our Saviour. It is probable, however, that all loathsome diseases were called leprosy at that time, and that many not lepers contracted leprosy by compulsory association with those tainted. A more recent committee on leprosy from the College of Physicians, London, announces that if there be elements of contagion in leprosy, they are no more to be dreaded than are those of syphilis, and does not advocate the segregation of those affected with the disease. Since the discovery of the bacillus of leprosy by Hansen, the communicability of the disease by direct inoculation has been recognized and a possible explanation has been given of those cases of apparent contagion. We are not aware that any case of syphilis has ever been noted in which the possibility of direct inoculation has not existed. It is evident that while many cases of leprosy have been shown to be due to such inoculation, other cases have been extant in which contagion alone was apparently the cause of infection.

The organism exists in great quantities in all tissues of a body infected with leprosy. Dr. Arving has shown that there is rapid and extensive multiplication of the bacilli after death. This fact increases the interest which the question should arouse with reference to commonwealths. The period of incubation is said to be a number of years. One case is reported from India in which a person developed leprosy five years after daily social intercourse with a leprous nurse; another case is cited from Borneo in which a boy, playing with a leprous companion, stuck a knife into the leper, and then in a spirit of bravado stuck it into himself. It is said that the boy developed leprosy nineteen years afterward, when he had become a man. Other similar cases have been reported.

In view of the great possibilities of repeated infection which might have happened during such long periods, we believe that the time of incubation of the disease cannot be set with much accuracy. As touching peculiarly upon State medicine the recent case of Dr. Van Harlingen, of Philadelphia, demands our attention. A woman and her daughter from Brazil, tainted with leprosy, came under the care of Dr. Van Harlingen. He recognized the disease and humanely withheld from the patients information as to its nature. He read a paper on leprosy before the County Medical Society and demonstrated one of the cases. The newspapers published vivid accounts of the case, and Dr. Van Harlingen was fined $100 by the municipal authorities for not reporting the case as a contagious disease. Finally, the lepers were isolated in the Municipal Hospital and were informed of the nature of their complaint.

The value of this case in forensic medicine is not to be under-estimated. It is high time that efforts be made by competent observers to collect all the facts extant bearing upon the contagiousness of leprosy and that experimental investigation, as far as it is practicable, be set on foot to settle this question. All facts on the subject cannot be collected unless there be co-operation between all nations amongst whom leprosy exists. Such co-operation does not seem to us impracticable.

It is probable that in these times many suffer from leprosy without any knowledge of this loathesome disease. Isolation would necessitate the appreciation of all such unfortunate beings of their condition, but would reduce the possibility of contagion, if the disease should be found to be contagious, to a minimum.

A physician in British Guiana is so thoroughly convinced of its contagiousness that he advocates the separation of male from female lepers to preclude the possible birth of leprous offspring.

We cannot but look with the utmost pity upon those unfortunates who are afflicted with so foul a disease—one which was frequently the occasion for the showing of divine mercy by the Great Physician.

It is a serious matter to isolate and cut off from all intercourse with their fellow beings, such unfortunates, but the safety of the community outweighs the consideration of so decided a minority.

If leprosy be contagious in so far alone as syphilis is contagious, the necessity of segregation does not exist, but if it be shown to be at all contagious in the sense that variola is contagious, a burning and serious question is present before the public. Further study of the disease alone can settle this matter.

WE are pleased to note amongst our exchanges *Practice*, edited by Dr. J. F. Winn, of Richmond, Va.

By the December number we see that *Practice* has arrived at the end of its first year. The scope of this journal is indicated by its title and it has eminently supported its claims. We wish it a continuation of its past success.

CREALIN, A NEW DISINFECTANT.—Fröhuer, of the new veterinary school in Berlin, has introduced a new disinfectant and deodorizer in crealin.

The substance is derived from the coal-tár series of hydrocarbons, by a secret method.

E. von Esmarch has made comparative experiments with it and carbolic acid. He has tested the power of the substance on the microbes of typhus, anthrax and cholera, and states that its effect upon the microbes is more active than that of carbolic acid.

He finds that as a deodorizer also it is superior to carbolic acid.

Incorporated into a soap it was found to be more efficient than corrosive sublimate soap.

Kortum (*Berliner Klinische Wochenschrift*), has corroborated these statements in the main. The substance is said to be a liquid; it smells like tar and is of an oily consistence.

WHY DIDACTIC LECTURES?—The above is the title of a new, energetic and forceful letter written by a "medical student" to the New York *Medical Record.* The writer asks what is the real use of didactic lectures in our medical schools? He advocate the abolition of these entirely. In their stead, bedside and laboratory work, with parallel courses of reading in theory, under the direction of clinical teachers. He bewails with a bitterness that savors almost of personal experience, the fact that the clinical teacher and lecturer occupies a position that is inferior in dignity to that of the didactic lecturer, and above all that no remuneration is given to clinical teachers. Though the writer has carried the strain to too high a point, he has undoubtedly struck on the key note of an error that exists to a detrimental extent in some of our diploma-giving medical colleges.

The proportion of collateral reading in theory, while it would do well enough for an accomplished and practiced student, would be utterly inadequate for the great mass of men who attend our colleges. If any one were to search through any medical class for college-bred men he would find them in a most decided minority. It is necessary for men who propose studying medicine to be well grounded in elements of the sciences before they can obtain any degree of efficiency in their profession. There is no one perhaps, however versed, who cannot learn or relearn some facts from an efficient lecturer in the sciences. Anatomy, physiology and chemistry are positively reared on the ground-work of mechanics and physics; the treatment of these subjects in a diactic way undoubtedly trains the mind to think methodically and consecutively. Except to a deep thinker, the beauties in the theories of these subjects are not apparent. Left to himself the average student would "cram" into his head far more dry facts, without properly comprehending them, than an intelligent lecturer could force him to do. For such a lecturer would unconsciously force him to exercise his reasoning powers, and enable him to obtain and retain facts that would be evolved by necessary forms of thought. The scientist and artist combined is the perfect professional man. Let no man preach one to the exclusion of the other. The German is an illustrious example of a nation that approaches perfection in both science and art. No art is touched in Germany till the theory of it is understood.

We regard the note-book as the curse of the medical student, and as the enemy of consecutive thought and memory. Instead of allowing his mind to follow the thread of the discourse, the student attempts to trace it on paper with his pencil. Let note books be proscribed and the medical student will take renewed interest in his didactic teacher, and find pleasure where he expects ennui. The other branches—practice, obstetrics, materia medica, etc.—offer greater advantages for clinical instruction than do the three primary ones. But no one can deny, who thinks at all, that there exists a vast amount of science as the ground-work of these, and that the average student must stumble who attempts to pick his way through such difficulties. Yes, clinical instruction should have more attention given to it than is allowed even now, but it should not supersede didactic instruction in toto. That there should be renumeration allowed the clinician, as well as the didactician, is undoubtedly just. This is shamefully disregarded throughout the length and breadth of the land. Above all does the case of the pathologist demand the attention of the profession. Devoted to a work which eats away his time and strength, he is unable to practice with that attention to business which is the begetter of professional success. Frequently imposed upon by his brethren for work which they themselves are unable to do, and frequently without any remuneration for his services, he should be the object of our utmost and immediate consideration. The laborer is worthy of his hire, and it is time that clinical teachers and pathologists should receive proper remuneration for their work.

Not that we deem such a thing in any wise probable, but we wish to enter our earnest protest against the idea of the complete abolition of didactic instruction. We do not believe that the increased importance which of late years has been given to clinical teaching is an omen of its complete substitution for didactic instruction: it only indicates that we are awakened to the value of the clinic, and that we are tending toward the golden mean of the classics.

A PROPOSED DIVORCE.—While there is much talk in the profession, and much is written and preached by medical men in regard to more extended courses of medical education and the higher standards which should be required, the preliminary examinations which seem indispensable to so many, etc., there has been no conformity of action or opinion among the colleges. For, as the subject stands, it is complex and impracticable, with no common ground for agreement, and no prospect of harmonious action.

If the State Medical Associations could take the matter in hand, and by judicious legislation place the final examinations of each college under State law, how quickly the prospect would be changed. The impetus given to intellectual work on the part of both the faculty and the class would be incalculable. Each faculty would recognize the necessity of weeding out from its ranks the inefficient and the superannuated members, such as every faculty in this country harbors at present, for reasons of expediency, or habit, or kindness, and of putting into their places men of such teaching ability as will enable the students attending the college to compare favorably with others when they stand before the unbiassed Central Examining Board.

This Board could be convened twice a year in each State. Graduation fees would not be refunded in any case of failure. The number of years which a student has devoted to college life need not be considered. The present status of his mind and attainments would alone be questioned—not the methods by which he attained to it.

It would soon come to pass that many students who now hope to gain their diplomas through influence, or through the natural desire on the part of the faculty to have a large graduating class, would devote their energies and the best years of their early manhood to other pursuits. They would not trifle with a profession which they would be destined to abandon.

It is said that one-tenth of the medical graduates in England give up the practice of medicine in a short time, and that in this country the rate of desertions is much greater.

This proportion of men, who in a few years retire from the profession, represent the number who would be debarred from standing before the tribunal of a vigorous and unbending examining board.

It has been suggested that a sufficient number of first-class physicians could not be found, who would be willing to do such service as this, and that the remuneration would be inadequate, but it is believed that such difficulties as these would not be found insurmountable. A very large income would be received from the graduation fees, and, if this proves insufficient, the States would be amply able to furnish the deficit.

One need not go deeply into this subject to recognize the many advantages to be gained by the absolute divorce of lecturing and licensing bodies, and that such a divorce must sooner or later occur. Until then the medical profession will continue to be overstocked. Many men will spend two or three of the best years of their lives in studying a profession which they will never practice. Faculties will continue in the old beaten paths, with a decided proportion of incapables in every school; ignorance will remain unchecked and the "higher education" an ideal thing, attainable only by a few.

DR. HENRY K. LEAKE, who has been editing the *Texas Courier-Record of Medicine*, at Dallas, Texas, has severed his connection with that journal entirely.

This is greatly to be regretted, as the *Courier-Record* has improved very much in style and character during the period of Dr. Leake's connection with it.

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ORIGINAL ARTICLES.

ARTICLE I.

REMARKS INTRODUCTORY TO A DISCUSSION ON PLACENTA PRÆVIA.*

By George Tucker Harrison, M.D., of New York County.

No theme in obstetrics exceeds placenta prævia in interest and importance. Involving, as it does, great danger to both mother and child, it is a subject of congratulation that art can here accomplish so much, especially when art goes hand in hand with science—or, to express it in other terms, when our therapeutical endeavors have reference to certain anatomical, physiological and pathological facts which recent science has revealed. The history of this subject does not go far back into the remote past. It is true that it has been asserted that Hippocrates describes placenta prævia in his discourse upon "Superfœtation," but the only passage to be found in this treatise which a vivid fancy might interpret as referring to this subject is the following: "*Si parturienti ante fœtum multus sanguinolentus citra dolorem fluxus contingat, periculum est ne fœtus mortuus exeat, ante minime vitalis edatur*"—*If a copious bloody discharge happen to a parturient woman, without pain, before the birth of the fœtus, there is danger that the fœtus may die before, at least, it is delivered alive.* In fact, the first unequivocal mention of this morbid condition dates from Guillemeau, 1608. This author, as after him Mauriceau, 1668, entertained the opinion that the placenta was originally attached to the fundus, but subsequently prolapsed. Schacher,* of Leipzig, however, in the latter part of the year 1709, on opening the uterus of a gravid woman, who had died from hæmorrhage, found the placenta adherent to the margin of the internal *os uteri*, and drew the correct inference that, without doubt, "*primis gestationis temporibus radices in hanc uteri partem immiserat*"—*it had implanted itself at an early period of gestation upon this portion of the uterus.* In 1715 Johann Van Hoorn, who was probably a pupil of Paul Portal's, published a manual for midwives, and in express terms mentioned that "sometimes the placenta, at the very beginning of pregnancy, is implanted upon the mouth of the uterus, whence, as soon as the latter opens, the former necessarily becomes detached; and the more it is detached, the greater the amount of blood from the lacerated vessels." Portal, 1688, himself speaks of having found the placenta adherent to the internal *os uteri*, but hazards no opinion in regard to its origin. In 1730 Johann D. G. Brunner, a pupil of J. J. Fried, maintained a thesis at Strassburg, "*de partu præternaturali ob situm placentæ super orificium uteri internum*"—*on preternatural birth on account of the placental site over the internal mouth of the womb*—and added three cases to those already known. If they were preceded by others who had the proper idea in regard to placenta prævia, to Gifford and Levret indisputably is due the merit of having established the true doctrine on a

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*Read before the New York State Medical Association, Sepember 29, 1887.

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*Schacher Polyc. Gottlieb et Seyler Christ J., *De placentæ uterinæ morbis*, Leips., 28 Nov., 1709.

firm basis. From this time the correct knowledge of placenta prævia was generally taught.

A critical study of the history of this subject would serve to illustrate most forcibly how slow the human mind is to grasp important truths, and how it has to be educated, step by step, to understand them; and, moreover, that advancement in knowledge at one period is followed by retrogradation at another. But however inviting this field may be, it is beyond our purpose to enter it. As preliminary to a just comprehension of the phenomena exhibited by placenta prævia, a study both anatomical and physiological of the lower uterine segment and the cervix during the latter part of gestation and during labor is indispensable. After the older views in regard to the behavior of the cervix during pregnancy had been overthrown—and in this connection the researches of Dr. Isaac E. Taylor are worthy of special commendation—it seemed as if our knowledge were established on a secure foundation; but recently the medical world was astounded by the arguments brought forward by Bandl in successive publications, which, resting on extensive observation, seemed to found anew the older view, with some modifications. The result of these writings and of the discussions to which they gave rise has been to show that during labor the uterus is differentiated into a retracting and thickening upper part, and into an expanding, thinning lower uterine segment and cervix. In the graphic language of *The Lancet* (Feb. 26, 1887, p. 437): "The lowest part of the retracted fundus is felt after labor as the bottom of the hard uterine cricket ball; below it comes the cervix and 'lower uterine segment,' hanging loose, apparently unretracted and passive, like a piece of flabby hose." As to what is lower uterine segment and what cervix has given rise to embittered controversy. For my own part, from clinical observation I am firmly convinced of the correctness of the views advocated by Schroeder and his pupils, and confirmed by Chiari, and, with Hofmeier, believe that "the lower uterine segment forms a well characterized part of the uterine body, both from its anatomical structure and from its mucous membrane investment, and that it differs essentially in both from the cervix in the pregnant as well as in the puerperal uterus. It differs not unessentially, macroscopically as well as microscopically, from the remaining part of the uterus, and deserves, therefore, with right, a separate designation.*

During labor the lower uterine segment is essentially passive in contrast with the upper part of the uterus, which exhibits active con-

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* "Der Schwangere u. Kreissende Uterus." Bonn, 1886, p. 70.

tractions, the boundary between the two being well designated by Shroeder as "ring of contraction." And here I would remark, that no one who reads the reports of cases of placenta prævia with which our medical periodicals teem, or who carefully peruses the elaborate expositions devoted to this subject in our best text-books, can fail to be struck with the diversity of views obtaining among medical men, both as regards pathology and treatment. The consequence is, that the average practitioner of medicine, when called upon to cope with the difficulties of a case, finds at the bedside that his knowledge is intangible and evanescent. Let us see, then, if it be not possible to strip the subject of unnecessary details and the refinements with which it has been encumbered, and to get at the heart of the main facts of pathology and treatment. The single but all-important symptom of placenta prævia is *hæmorrhage.* This hæmorrhage is caused by the detachment of placenta from the uterine surface adjacent to the internal *os uteri.* What, now, we ask, is the mechanism of this separation? As Matthews Duncan has clearly demonstrated, the placenta, under these circumstances, is not detached by a contraction of the lower uterine segment, but, on the contrary, by an expansion of the lower part of the uterine cavity. "The lower part of the cavity of the uterus," observes this author, "as it is distended in advanced pregnancy, is part of a spheroid or hemi-spheroid, with which the cervix is in connection, and of whose surface the internal os of the cervix occupies the vertex. To form the genital passage for the child, this hemi-spheroidal shape is distroyed by the expansion of the above-named internal os of the cervix and of the adjoining parts. That which formed during pregnancy a portion of a spheroid, forms during the passage of the child a small part of a nearly cylindrical tube."* The parts lying near the internal os must necessarily be the most extended in a transverse direction. Under physiological conditions the placenta is detached, because it cannot follow the strong contractions of its surface of attachment. In placenta prævia, on the other hand, the detachment occurs because it cannot follow the extreme extension of its site of attachment. But as Shroeder, correctly observes, that part of the uterine cavity, out of which the lower uterine segment is formed, is quite a narrow zone to which only a portion of the prævious placenta is attached. It is necessary, therefore, to seek an additional cause for an explanation of the detachment of the placenta and the subsequent bleeding. As we have just said, the uterus, in labor, is differentiated into an ever thickening and contracting upper part, bounded by the

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*"Mechanism of Natural and Morbid Parturition."

ring of contraction, and the constantly thining and expanding "lower uterine segment" and cervix for the passage of the ovium; and coincident with this change the greater part of the uterine body retracts on the ovum, and consequently the ring of construction slowly moves upward. This disturbed relation between the inner surface of the uterus and the surface of the ovum, which occurs in labor, is most marked in the vicinity of the internal *os uteri*, and consequently these parts are most retracted. In placenta prævia, if the bag of membranes is intact, the placenta cannot change its position on the ovum; and consequently, with the progressive dilatation of the internal os, the separation of the placenta goes on *pari passu*, each forcible contraction detaching additional parts of the placenta. On the contrary, if the bag of membranes breaks spontaneously, or is artificially ruptured, the placenta is not compelled to maintain its original position, but can retract with the uterine body, and hence, as a rule, a cessation of the hæmorrhage.

The source of the bleeding is the placenta site. Clinical observation has amply shown that in placenta prævia centralis the bleeding begins usually during pregnancy, while in placenta prævia lateralis there is no bleeding ordinarily until labor begins. The explanation is to be found in the fact that the "lower uterine segment" is formed, and the internal *os uteri* expands to a certain degree during pregnancy; and consequently, in placenta prævia centralis, the bleeding begins in the latter months of pregnancy suddenly and unexpectedly. In treatment, the problem we have to solve is to guard the patient against two dangers which menace her existence—*bleeding* and *sepsis*. Dangerous, nay, fatal, bleeding may occur in pregnancy, during delivery, and after child-birth. The special liability of women who are the subjects of placenta prævia to septic infection is readily explained by the low situation of the placenta, and by the lacerations so frequently produced in this anomaly—a condition of things affording but too favorable a gateway for admission into the system of infective matter, through the agency of the examining fingers of the accoucheur. Moreover, the intense anæmia consequent upon the great loss of blood they have sustained, which is so common in this class of patients, particularly pre-disposes them to *puerperal septicœmia*. This is explained by the extensive thromboses to which the anæmia gives rise, and by a more rapid absorption incident to this condition—a favorable soil for the infecting agent being thus produced.

The solution of the problem just enunciated is best accomplished, I believe, by a resort, as early as possible, to the bipolar method of version introduced by Braxton Hicks, who demonstrated, in 1860, that as soon as the cervix would admit one or two fingers this method was applicable in placenta prævia. This procedure is guided by two leading motives: by emptying the uterus before much loss of blood, we produce a contraction and retraction of the muscular uterine tissue, and secure the patient against the dangers of subsequent uterine atony; and again, by superseding the necessity of the use of the vaginal tampon, we eliminate a potent cause of sepsis,—the breech of the child performing the function of a tampon. The preliminary act of rupturing the membranes just before version has, as a rule, the effect of controlling or moderating the bleeding, as physiological considerations would, *á priori*, lead us to expect, because, under these circumstances, the membranes of the ovum and the placenta can retract upward on the child. This procedure offers comparatively little difficulty in cases of placenta prævia lateralis; but when the placenta is centrally implanted, it is often necessary to perforate that structure in order to attain to the cavity of the ovum, and this necessity diminishes the chances of the child's life. The suggestion of Zweifel (vide Lehrb. der Geburtshülfe. Stuttgart, 1887, p. 454) is here worthy of trial,—that is, to turn the woman on her left side, and to pass two fingers up behind the symphysis pubis between the placenta and uterine wall, because by this method of procedure it is possible to penetrate farthest above; and thus the perforation of the placenta may often be avoided. The splendid results obtained by Hofmeier, Behm, Lomer and Olshausen, have demonstrated the efficacy of this method in reducing the fearful mortality, as far as the mothers are concerned, to a very small percentage. It cannot be denied, however, that the mortality among the children, with the adoption of this method, has not been diminished, nay, it is possibly increased, especially in cases of central implantation of the placenta. The problem of the future is to endeavor to diminish this terrible sacrifice of child life. For its solution we may be helped by bearing in mind the above suggestion of Zweifel; and farther, it should be our endeavor to improve our antiseptic methods so that it may be in our power, in cases of placenta prævia centralis, to make use of vaginal tampons without danger of sepsis until the os is sufficiently dilated to allow us to rupture the membranes, and thus supersede the necessity of a perforation of the placenta. The importance of slow extraction, after a leg is brought down, cannot be too earnestly insisted upon in view of the great danger of causing laceration of the cervix, if too much force is brought into play. Behm allowed the child to be born spontaneously, after version; and certainly his remarkable success may well challenge our attention to his precepts.

It seems scarcely necessary at this day to urge that, above all things, the principles of antiseptic obstetrics should be carried out to the minutest details in these cases. Never should the obstetrician intervene until the external genital organs have been carefully washed with soap, and afterward disinfected, and the vagina and cervix douched with a five-per-cent solution of carbolic acid, or, if preferred, a solution of mercuric chloride (1 to 2,000).

In cases of bleeding during pregnancy, when the cervix is not sufficiently dilated to allow the passage of even one finger, is it justifiable to induce premature labor? Under these circumstances, I am of the decided conviction that such a procedure is contra-indicated as greatly enhancing the danger of septic infection. The use of a tampon, or a colpeurynter, will almost certainly in a few hours be followed by such a dilatation of the cervix as to allow the admission of one finger, and consequently the employment of the bipolar method of version.

It is not intended, by any statements heretofore made, to deny the well-attested fact that many cases of placenta prævia proceed to a favorable termination without artificial intervention. This, of course, is much more likely to occur when the placenta is laterally than when centrally implanted. In some cases of central implantation the child has been born wearing the placenta like a cap on its head, the uterus, in such cases, acting with unwonted energy. "On this the well-known treatment of Simpson"—to quote from the excellent editorial of the *Lancet*—"the complete detachment of the placenta by the hand, and its modification by Barnes—partial detachment—were founded. It is to be remarked that Simpson's treatment was founded on an interpretation of the phenomena, which implied that the woman was delivered safely because the placenta was detached; whereas, in our opinion, such cases only show that the uterus acted with unwonted vigor, shortening the dangerous period and producing good retraction, which, as is well known, is the only safeguard against bleeding. Detachment of the placenta, apart from vigorous uterine action, is only an increased element of danger; but most cases of placenta prævia do require prompt and wise intervention, and to wait for their spontaneous termination would be as wrong as to wait for some form of spontaneous expulsion or evolution in a cross-birth. Treatment, to be rational, must be founded on the pathology and natural history of diseases: in other words, it must take cognizance of the causes of death, with the view to avoiding them, and of the manner in which nature deals with them when she does so successfully."*

**Lancet*, February 26, 1887, p. 437.

In concluding these brief remarks, which are only intended as a prelude to a rich symphony to follow, may I be permitted to indulge the hope that the discussion of this great theme may be such that it will contribute to the increase of our knowledge, in the sense of Lord Bacon, and aim "to separate and reject vain speculations and whatsoever is empty and void, and to preserve and augment whatsoever is solid and fruitful; that knowledge may not be as a courtesan, for pleasure and vanity only, or as a bond-woman to acquire and gain to her master's use, but as a spouse, for generation, fruit, and comfort."

ARTICLE II.

On the Individuality of Disease. By Edwin Barnes, M.D., Pleasant Plains, Dutchess County, N. Y., President of the Fifth District Branch of the New York State Medical Association.*

One of the most learned and skillful masters of our profession has said that "a knowledge of the specific element in disease is the key of medicine, without which it is impossible to proceed successfully in the practice of our art." The thoughtful and observant physician is, at the commencement of his career, struck with the manner in which disease advances on certain lines, many times easily understood and appreciated, at other times in a manner intricate and bewildering to the last degree, but even then by its very intricacy confessing its variance from other morbid processes: its individuality. The object of this necessarily short and crude paper is to press the importance of observing and discriminating between these morbid processes and also to present the idea of disease as an entity; a subtle something none the less real from being intangible, an influence beyond and preceding bacillus, bacterium, and microbe, dominating them and the method of their production, and determining by its own overpowering individuality what the type of the disease shall be. We see its manifestations about us every day. Let one of those sudden changes of weather occur which are so frequent at this season of the year; in two or three days it will begin to show its effects among our patients but in as many different ways as there are patients. One may have an acute nasal catarrh, another tonsillitis, a third rheumatism, a fourth, perhaps, pneumonia, and each will have its own phenomena of invasion, progress, and, let us hope, recovery or cure, terms by no means always synonymous. The true name of any one of these diseases, a proper appreciation of its cause, its progress, and the various ways in which it may modify, suspend, or even permanently arrest processes which are essential to the well-being or even the life of the patient, is of far more consequence than the proper classification of its accompanying bacillus or microbe. Take, for illustration, dermatitis; when we find the classic symptoms of redness and swelling with heat and pain, it does not for an instant satisfy the true physician to say "here is inflammation of the skin, we will treat it as such." He at once looks beyond the symptoms apparent to the sight and touch, and seeks out its individuality. It may be a mere sunburn, often the most painful, always the most trifling of all. He may ascertain that the skin affection was preceded by headache, chilliness and fever, and that it spreads rapidly with increasing fever and constitutional disturbance, and he recognizes erysipelas. He may, in the same manner ascertain that it is symptomatic, an exanthema, and that the patient is suffering from scarlatina, measles, or small-pox, He may find a very severe dermatitis, with high fever and great constitutional disturbance, the result of contact with poison ivy or sumach, and lastly, a peculiar, coppery color, with sore throat, ozæna, nocturnal pain in the bones, and a history of impure intercourse will show the victim of syphilis.

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* Read before the New York State Medical Association, September 28, 1887.

Each of these forms differs radically from every other, and each proceeds upon its own lines, never changing to one of the other types. Or, let us take pneumonia for an illustration. One patient, after exposure to cold and wet is seized with pain and oppression in the chest; his breathing is accelerated, the specta are thick, tenacious, and rusty colored, there is dulness on percussion over some portion of the chest, and he has fever with more or less delirium; he is suffering from uncomplicated, idiopathic pneumonia. The next patient may have received a stab or gunshot wound of the chest, or a fragment of a fractured rib may have been driven into the lung, or he may have inhaled steam or some irritant gas or vapor; his pneumonia is, of course, a traumatism. A third patient well advanced in years has sustained a fracture of the femur, or some other severe injury which requires perfect quiet and rest upon the back,and after doing fairly well for a few days, begins to have a slow fever with quickened respiration and suffocative cough, and upon auscultation and percussing the chest you find hypostatic congestion with a low form of pneumonia, which will, in all probability, carry off the patient in three or four days. Lastly, we may find what is called typhoid pneumonia, a true pulmonic fever, contagious, striking down the strongest men as with a bludgeon, one of the most formidable and deadly of diseases. Pneumonia is part of all these widely varying types of disease, and yet the treatment proper for any one will in no manner suffice for any other. The skill of the physician will be shown by his discrimination of the various forms and his reputation depend upon his *success* in combating them. The individuality is not less apparent in its different methods of attack, whether it seeks to do its deadly work by alteration of structure, by perversion or arrest of function or nutrition, or by exhaustion of the powers of life by its very intensity and persistence. The sudden, bold, and violent, straightforward attack of idiopathic peritonitis or pneumonia is an excellent example of one form. The slow, methodical and progressive advance (like a true siege), of diabetes or albuminuria is another. The insidious, deceptive approach of the exanthemata, or of typhoid fever, differs radically from those just mentioned, while the convulsive diseases, mild like hysteria, terrible and deadly like tetanus and hydrophobia, have a set of phenomena peculiar to themselves. In the view of all these widely different and complex phenomena, it is difficult to look upon disease merely as the result of an attack upon the vital forces, by an army of bacteria or bacilli, each variety impressing upon disease its elements of difference from any other. Were this so it would seem to be impossible for different types of the same disease to differ so widely in intensity and danger, or to require such opposite methods of treatment. Uniformity should be the rule, and the exceptions and deviations should be far more rare than we find them in actual life. The presence of bacillus or microbe is, of course, demonstrated beyond a doubt in many forms of disease, and their presence or absence is often an invaluable aid to diagnosis, but that it is the cause of the disease is not yet proven. Were it really so, all diseases owning such an origin would, of necessity, be infectious or contagious, and would run their course uninfluenced by medicine, which would be of little account except to treat accidental emergencies.

It is not the intent of the writer to deny for an instant the value of microscopical research, or to belittle the importance of its results, but to protest against their over estimation. There is a tendency among the enthusiasts in this method of research to regard the patient as an interesting pathological curiosity, rather than a suffering fellow mortal who awaits at our hands either cure, alleviation, or at the very least relief from pain. The bacteriologist knows that whatever will kill the bacteria that he finds swarming in the blood, the secretions and excreta would probably most effectually "sterilize" the patient, and so he is often led to look calmly on, while the disease works out its processes unhampered by therapeutic measures. Very few would be led to the climax of nauseating absurdity of Dr. Cantani, who has gravely proposed to array bacillus against bacillus, and to treat phthisis pulmonalis with inhalations of an atomized culture fluid containing bacterium termo. What microscopial battalions he would make use of to assault and stay the termo after it has done its work, he has not as yet told us. All this leads directly to the fashionable therapeutic nihilism which drives our patients to seek the aid of clairvoyants, mind healers, faith curers and professors of "Christian science" so called. Many of the teachers and eminent men in our profession are not free from blame for this state of things. When the sick read the assertion of some great man that medicine is scarcely any science in the treatment of disease, and that our office is merely to watch it to its termination, the non-professional mind grasps but half a truth and at once turns for relief to the one who boldly promises a cure. One cannot at times rid himself of the idea that but half the truth has been told. When Sir. Wm. Gull states that there is nothing to be done in typhoid fever save to watch the patient and regulate his food and drink, and the temperature and ventilation of the sick room it cannot be that he expects to be taken literally. If so he either deals only with very mild cases, or else fails in his duty to his patient. There is no escape from the alternative. He surely does not wish the profession at large to think that he only does that which the trained or experienced nurse could do just as well. Secure in his baronetcy, his position in fashionable and titled society, and his ample fortune, he does not appreciate the effect of his words upon the average hard-working physician whose daily bread depends upon his curing, or at least assisting his patients. But we do know that there is a great field for the successful application of therapeutical knowledge when once the morbid process has been recognized, and until it has been recognized one must be most wary in his choice of remedies. Who of us has not seen the time when it was of the utmost importance to know whether a severe headache were owing to a disordered stomach, a commencing fever or incipient tuberculosis? Whether a troublesome cough was owing to bronchial irritation or to phthisis not enough advanced to give decided physical signs? It is in cases like these, and those plainer ones where diagnosis is more easy but where aid must be afforded at once, if ever, that a knowledge of the specific element in disease is so indispensable to the practitioner. By keeping this idea of individuality steadily in his mind he will be best enabled to grasp the symptoms in their entirety, to estimate the effect of the remedies prescribed, to refrain from needless intermeddling as well as to guard against surprise.

ARTICLE III.

HISTORY OF A CASE OF VESICAL CALCULI.*

By DANIEL BROWN, M.D., New York.

The patient from whom this specimen was removed, possessed, both an interesting personal and medical history. He was born in Bethlehem, of Judea, in June, 1824, and died on 19th of July, in this city, at a little over 63 years of age. He was of a noble family, his father being Governor-General of the province of Judea under the Sultan. When his son was about sixteen years of age, he was made tax-commissioner of a province and fitted out with a harem and four wives, and rapidly acquired a princely fortune, and, being a great student he spent his surplus time in study and travel, mastering many Oriental tongues. He continued to hold his position up to about his fortieth year, when he fell in with the American missionaries, began to study their system of theology, and ended by embracing the Christian religion. This so angered his father that he ordered his arrest and the bastinado, as a remedy for this sort of lunacy, as he probably considered it. It, not proving as efficacious as was hoped, the "bowstring" was under consideration, as a surer and more radical form of treatment.

The patient, however, held advanced and very decided opinions, also, in regard to his own case, and was so unfavorably disposed to the proposed new departure, that he quietly took his departure, and made the best possible use of his time until he was safe under the shadow of the British consulate.

He was a man of medium size—about five feet, ten inches in height, weighed in health, about 155 pounds, of abstemious habits, and enjoyed robust health until the last few years, when rheumatism and indigestion caused him some annoyance. He spent his time while in this country in writing and lecturing, until his eyesight became impaired.

In August, of 1885, he called at my office and complained of an inability to pass his urine. On examination an exceedingly small penis was noted. The meatur, also, was so small as to scarcely admit a number V sound. Just within the meatus, a hard substance was found, which prove to be several calculi, of the size of hazel nuts. The meatur was incised and the pieces removed. They were of an angular irregular shade, with quite sharp edges, which caused the patient intense pain in passing. A sound was introduced to enlarge the canal, and when he called the next day, I removed three more of the stones, and continued the dilating, until a number xviii. was readily passed, when he was discharged cured.

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* Read before the New York County Medical Association, November 21, 1887.

I saw the patient frequently, both professionally and socially, during the next two years, but heard not a word of complaint of his urinary apparatus.

On the 8th of July, of this year, he called again, and informed me that he had been unable to pass any urine for nearly twenty hours, and the same condition, of two years previous was found, excepting, that the canal was larger, having contracted but little within that time, and the organ was completely occluded by the calculi, he being able only to force a few drops by the obstruction. I removed them with the dressing forceps and relieved the bladder with the catheter. On the 9th he returned and with the " right of way " again impeded, suffering intensely. He was relieved as before; this time, however, I deemed it necessary to wash out the bladder. The next morning I was called before day-light, and again found his penis corked tightly, by three or four of the calculi. His bladder was now growing irritable, and his desire, to void his urine every two or three hours, more intense. I, therefore, instructed a young man in the house to pass a catheter in the intervals of my visits, and morning and evening, for the next ten days, removed from three to five caculi, drew off the urine, and washed out the bladder. The intense pain was controlled by anodynes and as soon as symptoms of cystitis were manifest, ordered hot fomentations over the lower abdomen.

The weather was exceesively hot, and loss of sleep, loss of appetite, and the severity of the suffering, caused the patient to fail rapidly in strength, and on the tenth day of his illness, my assistant, in endeavoring to pass the catheter, forced a false passage from which, on my arrival I found him bleeding quite profusely. It was at times exceedingly difficult to introduce an instrument, requiring an assortment, and all one's ingenuity to get into the bladder at all.

The water was, for the last few days quite thick, mixed with pus, blood, and mucus, as well as a jelly like substance—the composition of which was not determined.

During the night of the 18th I remained with him, relieving his sufferings, and giving some stimulants, but in spite of all efforts he sank and died from failing heart power.

I succeeding in obtaining an opportunity to make a partial post-mortem, and was thoroughly surprised to find that, after all that had been removed the bladder was still full of calculi.

Though the walls were but slightly thickened, the organ and prostate, with the remaining calculi, weighed ten ounces.

In reviewing this case, a few questions naturally present themselves for solution, viz.: Was this a large stone spontaneously ruptured?

Were they small stones formed in the kidneys, and enlarged by accretion in the bladder? Why did not the attending physician discover the true condition? If a correct diagnosis had been made, could life have been prolonged, or possibly saved by an operation?

In considering the first two questions—for they can best be studied together—this size and shape indicate, strongly, that it had been a large stone, or possibly two, broken up into the fragments—a specimen of which I have shown you. If they were orignally small culculi formed in the kidneys or bladder, it would seem reasonable to suppose that the edges would have been less sharp, and the calculi less angular, especially as they appear to be compound—the outside rather soft and friable, the inside hard and of a darker color. Some, at least, should be round or vivid from attrition.

Doctor Gross in discussing the varieties says: ("See system of Surgery," page 764, vol. II.) "The number is variable. In general, there is only one, but there may be several hundred, The largest number I have ever found was fifty-four. Dr. Physic in one case, that of Chief Justice Marshall, met with upwards of one thousand, from the size of a partridge shot to that of a bean."

"When the concretions are numerous, they are generally proportionally small and smooth; when solitary, rough and comparatively large."

Ashhurst states: ("See System of Surgery," page 886.) "The shape of vesical calculi is a flattened ovoid, though mulberry calculi are often rectangular or irregularily rounded."

The specimen we have here, do not conform to either of the above descriptions; and it is hardly conceivable, either, that they should have passed down from the kidney's, especially in such quantities, and no history of renal colic. There was absolutely none in this case.

Doctor Ord, in discussing the breaking up of calculi in the bladder, states his belief: "That it is due to the penetration of the stone, by the fluids to the nuclis, and the chemical combination, with the constituents of the nuclis and the setting free of the gasses that causes the rupture."

This would appear from the size, shape, and formation of these calculi, to be a reasonable solution.

Doctor Gouley being present, was invited to open the bladder, then did so, and commented substantially as follows: "The walls of the bladder are but slightly thickened; at *this* point is a sack large enough to have held one of the calculi; as I empty the bladder we find much larger fragments than those removed, and too large to pass through the urethra. We find here *a number of distinct nuclei making it evident that there were a number of calculi spontantaneously ruptured.* Indeed, the unique feature of this case, is the fact, that there is not a whole stone left in the bladder.") The Doctor then proceeded to discuss the causes of rupture, and his own theory which he some years ago published.

The number of nuclei was not definitely determined, but there were, probably, from fifteen to twenty in number.

Dr. Holmes quotes from a London Hospital report, sixty-four cases, of which the largest number found was ten, though three cases of that number could not be determined owing to their broken condition, and are given as 'several.' ("Holmes Surgery," page 864.)

In Guy's Hospital Museum, "there is a remarkable collection of 142 calculi removed from the bladder of a patient by Sir Astley Cooper, all of the same figure, being cubes rounded at the edges and angles; these have the color of pipe-clay and are chiefly composed of urate of ammonia." ("Holmes Surgery," page 829.)

"Coulson vouches for 678 stones in the bladder and 10,000 in the kidneys of an old man." ("Encyclopœdia of Surgery," Ashhurst, page 163.)

Dr. Elis Blake, of this city, reports removing a bladder of a woman "distended to the size of a small fist, absolutely full of small stones about the size of duck shot."

In considering the question of the error in the diagnosis, the attending physician frankly acknowledges the liability to criticism for not discovering sooner the true condition of the bladder, and, in a similar case, would not rest until the bladder was thoroughly explored. The error in this case arose from the size and shape of the fragments first removed. Believing that it was a stone of the size of a pigeon's egg that was broken up, and as they were coming away daily, and the canal having been enlarged to many times its former diameter, it was thought that the organ was rapidly ridding itself of the pieces, and, as there was no symptoms afterwards for nearly, or quite two years, it was naturally supposed that the cure was complete.

When he returned, it would, in my judgment, have been impossible to have successfully operated, owing to the age of the patient, the excessive heat of last July, and his rapidly failing strength and the sudden onset of cystic inflammation. In dilating the urethra during his preceding treatment no sensation of stone in the bladder was felt, or sound heard. It is probable, however, if a hollow sound had been used and the bladder examined with it, the calculi would have been found.

During the last illness fragments were often noticed coming in contact with the instrument, but it was believed to be a small piece caught in the posterior urethra, at or near the triangular ligament.

The catheter was at this time often caught by the organ, so that it was difficult to remove it. The fact that it was caught and held between the calculi by the contraction of the organ, is thoroughly appreciated now, but at the same time, the impression was, that it was held at the neck of the bladder against a fragment of the stone.

So far as I have been able to determine, these calculi are compound, the outside as mentioned above, are lighter colored, soft and friable, and of a phosphatic nature, the inside or nuclei of a darker color—a grayish tint, much harder, and probably of the mulberry variety.

It is needless for me to attempt to discuss the history, pathology, diagnosis, prognosis, or treatment, as you are all thoroughly conversant with these topics, and the text-books present the matter in extenso, and far better than it could possibly be done here.

If this brief history serves to call out a discussion of the subject by the experienced gentlemen present it will have well served its purpose.

November 21, 1887.

ARTICLE IV.

RECENT AND NEGLECTED CASES OF DISLOCATION OF RADIUS AND ULNA UPWARD AND BACKWARD UPON THE HUMERUS.*

By U. C. LYNDE, M.D.

This dislocation derives its importance from several circumstances. It is the common dislocation of the elbow joint, much more common than all the others combined. When recognized, it is easily reduced; but from these two circumstances, viz., that the amount of deformity is less in this dislocation than it is in other dislocations of these two bones at this joint, and that the amount of swelling is very great, this dislocation is much more liable to be overlooked than the others. It is the only neglected dislocation of these two bones at this joint that has ever come to my knowledge, either by report or experience. When reduced soon after its occurrence, it ordinarily does little or no damage to the joint. It mostly occurs in childhood and youth. Hamilton states that in thirty-three cases observed by him, nineteen occurred in children under fourteen years of age. In the statistical table given by Holmes, more than half occurred before the age of fifteen. Agnew states that of the 113 cases admitted to the Pennsylvania Hospital, seventy-five occurred before the age of twenty-five. It follows, that when, for any reason, this dislocation remains unreduced, it is generally for a lifetime. In a majority of cases this dislocation occurs in the handier, and therefore in the more useful, arm. When unreduced, the deformity is not only considerable, but the loss of function is impaired, and may be entirely lost. Of the main joints of the two extremities, this dislocation becomes the soonest irreducible. Gross states that he "has never been foiled in a recent case, but that he has met with many examples where every attempt proved unavailing after the third week, and sometimes, even, by the end of the second." He states, also, that "It has been his lot to witness an unusually large number of these neglected cases, and generally at a time when nothing could be done for their relief." "It is worthy of notice," says this author, "that if efforts at reduction in neglected cases are long continued, they may be followed by grave results, such as violent inflammation, suppuration, or even gangrene." He then quotes the case of Velpeau, in which that great surgeon had the courage to report the death of his patient. Hamilton states, after having reported successful efforts in the reduction of neglected cases by various surgeons, that "While so many cases can be found in which surgeons have been successful, the successful cases are not, probably, in the ratio of one to ten as compared to the failures." He declares that "The severe accidents attending these efforts at reduction have not all been recorded, such as suppuration, gangrene, and death;" and goes on to quote Denace as having looked up five or six successful reductions that were followed by grave results. Agnew says—"The triumphs in the reduction of this dislocation, when compared with the failures, are highly exceptional; and in the few cases in which the surgeons have been successful, that success has not unfrequently been won at the cost of a ruptured brachial artery, an important nerve, or the gangrene and loss of an arm,"—quoting, as is usual with authors, the courage of Velpeau. It would seem that the foregoing would be sufficient to awaken in authors and teachers a lively interest in this subject; but more especially should this be the case with the general practitioner, who is the most directly concerned, as being responsible for all the evils that follow errors in diagnosis. Gross states that he is "satisfied, from no little observation, that there are no luxations which are so little understood or so unscientifically managed."

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* Read before the New York State Medical Association, September 28, 1887.

The foregoing concern the patient. But how now can the surgeon escape trouble? It certainly will come home to him sooner or later. He must know that he has made a grave mistake, and that this mistake will be known and felt by his patient. He must know that for all the grave consequences of his mistake he alone is responsible. He must know that his professional friends will know it, and, worse still, he must know that his professional and non-professional enemies must know it; and, still worse than all the preceding, he must fear, almost expect, that those public excrescences, the lawyers, will find it out. But strange as it may seem, when we consider that these mistakes are not very uncommon, the cases of malpractice growing out of them are rare. Doctors are driven to defend themselves in court for unavoidable results—unavoidable, sometimes, on account of the nature of the injury, and sometimes on account of an intractable patient; but that so few of these cases get into court is, to me, a wonder.

We will first consider the reduction of this dislocation when recent. And let us examine, first, the factors concerned in its reduction, situate in and about the joint. These factors are three in number—muscles, ligaments, and bones. The first, the muscles, are active, while the last two are passive, factors. Concerning the muscles, there is among writers upon this dislocation a pretty general agreement. All agree that anteriorly the biceps and branchialis anticus are in a state of tension, unless the latter be ruptured—a circumstance that is not mentioned by writers generally, and only claimed as possible by a few. The triceps, posteriorly, is also in a state of tension. A few writers have mentioned the pronator radii teres and supinator brevis as also being in a similar state; but these muscles are not generally taken into account when available agents in the reduction of this dislocation are being considered. In all cases in which the brachialis anticus remains intact, it is the chief factor about the joint on which the surgeon relies in the reduction. Writers on surgery generally agree, concerning the state of the bones in this dislocation, that the radius and ulna are united by the orbicular ligament, and that the head of the radius lies against the posterior surface of the external condyle, while the coronoid process lies in the olecranon fossa. Malgaigne, alone, claims that this process more often lies against the trochlea of the humerus, while several admit that it may not have reached the olecranon fossa, or may even have gone beyond; and these conditions, as possibilities, no surgeon can dispute. Some writers, Erichsen in particular, claim that the coronoid process is liable to be broken, while others fail to mention it. In the three experiments made upon the cadaver by Dr. Moore, this process remained intact in all. It is probable that this process very seldom breaks, if ever.

We come now to consider the ligaments. Gross and Bransby Cooper merely state that the ligaments are torn or ruptured, without stating what ligaments. Holmes, Hamilton, and Andrews in Ashhurst, say that the anterior and lateral ligaments are more or less torn. Bryant and Erichsen say nothing about rupture of the ligaments. Agnew says that the anterior and lateral ligaments are torn. Wyeth says that the anterior, the internal lateral, and the anterior fasciculus of the external lateral ligaments are torn asunder. In Dr. Moore's three experiments upon the cadaver, the anterior ligaments were torn; but the lateral ligaments escaped in all. With regard to these conflicting statements concerning the lateral ligaments, I suppose that these authors have made their statements more upon faith than knowledge; seldom, if ever, instituting an inquiry addressed to experimental demonstrations. In taking into consideration the worth of Dr. Moore's experiments upon the cadaver, we must bear in mind that only the bones and ligaments are considered—parts that must be subject to the same laws in death as in life. Muscles might be torn in life that might escape in death, being under the laws of volition or reflex action; but this cannot be claimed of the lateral ligaments, or of any other ligaments. As these dislocations take place when the forearm is extended, it would seem that the lateral ligaments would be sufficiently relaxed to allow the coronoid process to slip over the trochlea of the humerus into the olecranon fossa without their rupture. Sixty-five years ago Sir Astley Cooper described his method of reducing recent dislocations of the radius and ulna backward and upward upon the humerus, as follows: "The patient is made to sit upon a chair, and the surgeon, placing his knee on the inner side of the elbow joint in the bend of the arm, takes hold of the patient's wrist and bends the arm. At the same time he presses on the radius and ulna with his knee so as to separate them from the os humeri, and thus the coronoid process is thrown from the posterior fossa of the humerus, and whilst this pressure is supported by the knee, the arm is to be forcibly but slowly bent, and the reduction is soon effected." By this it will be seen that Sir Astley ascribes the throwing of the coronoid process from the posterior fossa of the humerus to the pressure upon the radius and ulna. This process is not thrown out or lifted out of the olecranon fossa by pressing upon the radius and ulna. Flexing the forearm upon the arm rolls the olecranon process out of this fossa, and the same procedure rolls the coronoid process out of this fossa, after it has been driven there by accident. This false reasoning has been followed by nearly every author who has attempted to explain the modus operandi of Sir Astley's manipulation in the reduction of this dislocation from his time to the present. Using the knee, or any other body, in the bend of the elbow is a matter of convenience and not of necessity; for it is not by pressing upon the radius and ulna that the coronoid is removed from the olecranon fossa, but by flexing the forearm upon the arm. The knee at the front of the elbow, as a fulcrum, has been placed by some authors against the end of the humerus; by some, against the bones of the forearm; while by some no directions are given. When the knee rests against the end of the humerus, the bones of the arm and forearm are only crowded more firmly together with every increment of force used. If it be placed against the bones of the forearm, then, as these are held to the humerus by the muscles, that bone is brought down against the bones it is sought to separate it from. And if it be placed so as to press against all three of the bones, as in practice it generally is, then, as in other positions, it fulfills its purpose, that of a counter point, while the forearm is being flexed upon the arm. They all succeed, for flexing the forearm is all that is needed. There are but two indications in the reduction of this dislocation. The first is to remove the coronoid process from the olecranon fossa; the second, to aid the brachialis anticus in drawing this process in front of the humerus. As there are but two indications, there are but two methods of reducing this dislocation. Stated briefly, they are—first, over-extension and traction; second, flexion and traction. By the first method, the coronoid is *lifted* from the posterior fossa; by the second, it is *rolled* from it. In both methods, traction from the wrist is used to aid the brachialis anticus in drawing the ulna into its normal position. Should this muscle in any case be torn, as described by some, then traction will be aided by the biceps. The general practitioner easily reduces this dislocation when it first occurs; the layman reduces it; the patient himself reduces it. But, after a few days in some instances, after a few weeks in most, and after a few months in all, its reduction becomes a difficult task. Surgeons raise the question, Why does a dislocation so easily reduced when it first occurs, so soon become difficult of reduction, if not absolutely irreducible? Gross, after stating that this difficulty of reduction cannot be owing to so recently formed adhesions, says he is unable to account for it. Bryant attributes it simply to adhesions. Erichsen says it is owing to adhesions and interlocking of the bones. If we take the bones, the humerus and the ulna, and place them in the position they occupy in this dislocation, and hold them so by lateral force, we shall see what a trifling amount of this force it will require; and at the same time we shall see how impossible it would be to reduce this dislocation by any amount of traction while the angle of the bones remained unchanged. The *sine qua non* then is to remove the coronoid process from the olecranon fossa. This can be done by either flexion or over-extension. The *former* is *safe;* the *latter may* endanger important vessels. But to return to the first part of our question. Why is this dislocation so easily reduced when it first occurs? Ligaments, muscles, and bones are the factors concerned. The first, the ligaments, having just given way sufficiently for the dislocation to take place, should offer no barrier to its reduction. The second, the muscles, are in the most favorable state to be made available in its reduction. As regards the last factor, the bones, an examination of them when the dislocation has just taken place will shed some light on this subject. A few weeks since, while removing pieces of bone from an elbow that had been caught between the buffers of two cars, I found this process detached from the ulna. The man was young and stout, and this process and its coverings were, perhaps, well developed. But I was disappointed in the point of this process. It was not a point in the sense in which I had been accustomed to regard it, but rather an elastic mass covering the apex of the bone, and consisting of cartilage, fibrous tissue, and synovial membrane, yielding and smooth. When a dislocation takes place, and this process, with its coverings bathed in synovia, is thrown into the olecranon fossa, which is itself lined with cartilage, covered with synovial membrane, and supplied with synovia, we have two surfaces in contact, admirably adapted for sliding easily and readily over each other. And thus we find in a fresh dislocation two factors, ligaments and bones, in an unfavorable condition for offering resistance to the reduction; while the only remaining factor, the muscles, are in a favorable state for rendering efficient aid.

We will now answer the second part of our question, Why does this dislocation so soon become difficult of reduction, if not absolutely irreducible? Examining the bones, we find the coronoid process held down in the olecranon fossa, with its uneven anterior surface against the even, smooth, posterior surface of the trochlea. The relation of the two bones, ulna and humerus, in this dislocation, when not disturbed, is that of two hooks hooked together. But when flexion of the forearm is begun, one hook, that of the fossa, is unfastened, and ceases to be a factor; but the main and more perfect hook still encloses in its concavity just all it can hold, the trochlea of the humerus; and as this trochlea is a perfect cylinder, and as in flexion the hook, the coronoid process, will be held firmly on this cylinder, the trochlea, at all stages of the flexion, however extreme, this part of the obstruction to reduction becomes apparent. Right here let us examine the form of this hook, the coronoid process, and also the form of the cylinder, the trochlea of the humerus. Not only is the coronoid process a hook, anterio-posteriorly, but it is the segment of a sphere, almost a hemisphere, laterally; and not only is the trochlea a perfect cylinder, but, owing to the conformation of the bone on either side, its concavity constitutes the segment of a circle laterally, which is almost a semicircle. Now, when these parts are *in situ*, especially when the forearm is at a right angle to the arm, the convexity of the coronoid completely fills the concavity of the trochlea. This is a condition of much more importance in old than in recent dislocations. There is one more circumstance of more importance still, and that is, that such is the relative formation of these parts, the trochlea and the coronoid process, that this process is no ordinary hook seizing its object by a small extent of surface laterally, but it is a hook that completely clasps its object over a surface of nearly a hundred degrees. Especially is this true of these parts when the forearm is at a right angle. But this peculiarity ceases when the forearm is in an extreme state of flexion. This state is consequently much more favorable for reduction than when the forearm is at a right angle, and more favorable than any other. Having shown the great extent of bony surface in contact, and the *peculiar* manner and the wonderfully *firm* manner in which these bones are hooked on to each other, it remains to notice the condition of these surfaces in a few days or weeks after a dislocation has taken place.

When the dislocation first takes place, the surfaces are all covered with soft parts that readily and easily glide over each other. Surgeons agree that in this dislocation certain muscles are in a firm state of tension; that the biceps and brachialis anticus, aided somewhat by the pronator radii teres and supinator brevis, counteract the triceps, the two opposing sets holding the radius and ulna firmly and actively against the humerus. On account of the pain caused by all motion, the patient will keep the arm still, so this pressure will be constant and without change of position. Under these circumstances, taken in connection with the fact that one of these surfaces, the anterior surface of the coronoid, is like ivory and uneven, but a very short time will be required for absorption of the intervening soft parts, leaving the bony surfaces together. At the same time adhesions are taking place of ligaments in and out of place, and binding these bony surfaces together. While surgeons have entertained different views concerning the causes that prevent reduction of this dislocation, nearly all efforts at reduction have consisted in force. They have used their own strength, that of assistants and the pulleys, all acting upon the idea that somewhere there was an obstacle which somehow might be overcome by force. Dr. Andrews has succeeded in one case by cutting the lateral ligaments subcutaneously, and he advises cutting the tendon of the triceps if necessary. When we consider the condition of the factors that are concerned in rendering a neglected case of this dislocation irreducible, the wonder is that surgeons have ever been successful in safely reducing it by mere force. But few writers on surgery mention the use of the knife in cutting ligaments and tendons subcutaneously, and those who do generally condemn it, claiming that it is dangerous, that it is not successful, etc.

The joint recovers all its functions after compound dislocations, injuries in which ligaments, muscles fasciæ, and skin are extensively lacerated. John Divine, an employé of the Erie Railroad, had a compound fracture of the right elbow, with rupture of the brachial artery. Assisted by my student, Dr. Clark, I tied the artery and dressed the fracture. He recovered, and is now in the service of the road, with a good and useful arm. Bullets may traverse this joint, comminuting the bones and contusing the soft parts ; car buffers may crush it and the surgeon exsect it ; and yet the arm lives on, sometimes with an artificial joint, and sometimes with an ankylosed joint, if joint it can be called. Retrospection of the cases of gunshot, railroad and other severe injuries to this joint that have come under my observation, with the operations made for their relief, and the results, has convinced me that no injury is too severe for this joint to recover from if the main vessels remain intact. Cases of neglected dislocation, that can be reduced by a moderate degree of force in the way of extending (not over-extending) and flexing the arm to an acute angle, and then using traction, can be considered very fortunate cases. But those that cannot be reduced in this manner should not be given up as hopelessly deformed and maimed for life. It is the duty of the surgeon to cut, with antiseptic precautions, the posterior ligament, the tendon of the triceps, and the lateral ligaments, subcutaneously. By these means the obstacles to extreme flexion have been overcome to such an extent that few old dislocations can resist the amount of traction from the wrist and forearm to which the parts can be safely subjected. Extreme flexion, unlike extreme extension, can be made available without jeopardizing the main vessels in front of the elbow. Should the surgeon now fail, he is justified, in favorable cases, in opening the joint posteriorly and laterally, and, avoiding the ulnar nerve, in cutting every fibre that opposes reduction, save in front of the joint. The vital parts of the arm all lie in a small space in front of the elbow, and as long as the surgeon's knife does not reach this locality, so long he does not jeopardize the life of the forearm. Care should be taken not to cut away the coverings of the ends of the bones, and the greatest care should be observed in antisepsis.

The reduction should now be effected by flexing the forearm to an acute angle and traction. Some force could be safely spent upon the olecranon, if necessary. By only using the knife posteriorly and laterally, and by only using traction when the forearm is flexed, the surgeon will not endanger the main vessels, and consequently will take no chances of killing the forearm. After the reduction has been effected, should there be in any case a disposition on the part of the joint to fail to maintain itself in its new but normal position, in consequence of the use of the knife, an artificial support can be made use of for a short time by the surgeon.

The after treatment of the wound should be modern, and with a view of restoring the motions of the joint if possible. The surgeon, in this particular, may or may not be successful, but he should be successful in restoring the bones to their normal position and thus relieving the deformity, and at the same time placing the forearm in the best position possible for usefulness in case of ankylosis. I have stated that the surgeon should make this last resort in favorable cases. A favorable case would be one in which milder means had failed; in which the patient was healthy; and, while the loss of motion was sufficient to deprive him of all benefit of flexion and extension in the use of the arm, there evidently was not complete and extensive bony ankylosis. The latter circumstance would be determined while the patient was under an anæsthetic, and while other means were being tried for the reduction. No case should be regarded as favorable in which the surgeon sought the patient, but in this respect this operation would constitute no exception to surgical operations in general.

ARTICLE V.

MATERIA MEDICA IN 1887.

By EDWARD R. SQUIBB, M.D.*

Section 3 of Article IX of the By-Laws of the Association makes it the duty of the President to occupy the February meeting with some account of the progress made during the year in that department of the medical art or science in which he may have been specially interested.

In assuming this duty the writer is at a loss to know how much or how little of the pharmacology of the year is really progress in the right direction. So strong is the desire for novelty in all departments of human knowledge, that progression, in the sense of going forward, is not always improvement.

That is, the apparent or seeming progress of one year is so generally checked and modified by the experience of those which follow, that any useful account of the advancement made should be in large part a consideration of what has been confirmed or refuted by continued observation and research upon the propositions and statements of preceding years. The writer will, therefore, not attempt to collect and enumerate the additions to the materia medica proposed during the past year, but rather try to glean from the too often conflicting experience of the year those statements which appear to be most trustworthy in regard to a few of the novelties which have lived through the past four or five years, and which give most promise of becoming established by general utility. Nothing original is to be offered, but only an attempt to sift out from the mass of published testimony that part which may be provisionally accepted as evidence for or against the substances which appear to be of present importance to the art of medicine. And even such conclusions are presented with hesitation and doubt, because it is by no means certain that all the important publications in regard to the agents under notice have been seen, and, again, because those which have been seen may not all be free from the bias of commercial enterprise. It has been very common within the past ten or fifteen years to control by patents all such new articles of the materia medica as could be patented, for the purpose of making money by them, and then the statements in regard to such patented articles are often the results of misdirected enthusiasm, upon incomplete observation, procured in the money interest of the patents.

An illustration of this is so directly in the line of progress in the materia medica as to be worthy of a brief recital.

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* Read before the Kings County Medical Association, February 7, 1888.

Piria discovered natural salicylic acid in 1838—salicine having been discovered by Leroux in 1830—and the acid was afterward made and investigated through all the years to about 1860, but always from natural sources. About 1860 Kolbe and Lautemann made the acid synthetically, and published their process.

This process was confirmed and repeated by many workers, among whom was this writer, so that the acid became more common, but still costly. About 1875 Kolbe, or some commercial house which represents him, patented his process for the acid, when all the makers in this country and abroad had to stop making it, or stand a lawsuit. Then began the florid statements in regard to its effects and uses, which all must remember.

An account of this process, and a summary of the early investigations with the acid, by this writer, were given in the *Chemical News* of London, vol. xxxiii, for 1875, at p. 46. It does not detract in the least from the great importance of the artificial production of this acid to say that not half the promises made concerning it have been realized, and that it would have sooner reached its true value, both in medicine and the arts, had it not been patented, or not been lauded extravagantly, as a natural consequence of having been patented.

Commercially, the patent has been a great success, although it may be doubtful if Kolbe shared as largely in that success as he deserved. And the public benefit from the process has been much enhanced by the weakness of the patent. There were two or more large makers of the acid by the process when the attempt to enforce the patent was made, and these contested the patent, and kept the price within moderate limits during the long contest, until finally the patentees and their contestants made a compromise, and bound each other to a scale of prices so favorable to all that they have maintained them without break.

This patent expires about 1889, when a wholesome competition among the makers will undoubtedly soon reduce the cost to the public to perhaps one-third of the present price.

An item of progress in the true interest of the legitimate materia medica is realized when an English judge, in very decided language, refused to allow his court to be used as a medium for advertising quack medicines.

The case is given in the *Chemist and Druggist* of London, No. 396, for November 19, 1887, p. 639.

The proprietors of an American patent medicine sue a London patent medicine company in the High Court of Justice, before Mr. Justice Kay, to restrain the latter company from using a part of the name of the former. The agent of the first company declared on oath that his company had sold no less than 12,000,000 bottles of their medicine, and paid no less than £400,000 in advertising, and in one year alone had spent £100,000. He discovered that this enormous interest was being damaged by the company sued having got up their medicine in the same style, and having offered it in the streets by boys dressed up in variegated costume to represent the coat of many colors of Joseph, the medicine being Saint Joseph's Oil, and the infringement or conflict being upon the use of the word "Saint," which was a part of the title of the plaintiff's oil.

The street boys sold the oil at a penny a bottle, and generally to the poor, upon the cry that "Saint Joseph's Oil conquers pain." This was the precise cry that the other Saint's Oil used, and now sought to have Saint Joseph restrained from using.

The Judge, without calling on counsel for the defense, dismissed the motion. He said he did not intend to be a medium for advertising quack medicines. He used the words "quack medicines" advisedly, and applied it to both parties in vigorous language, without stint or qualification; and all his remarks upon the case were wholesome and timely, placing the parties in their true light, and one they would not be likely to use in their advertising. And he wound up by saying that if any one chose to advertise this judgment he hoped they would add the words of caution which he now employed, namely, that no one should use either of the preparations except under medical advice.

One of the reasons for bringing this case in here is that it has not had a very wide circulation, nor much notice, possibly because the press lives so largely upon this class of advertisements. Anything of this kind is apt to lead tacitly to what the Duke of Argyll calls "the conspiracy of silence."

One journal, however, is outspoken, and after reading Mr. Justice Kay a pretty serious lesson, frankly shows its meaning in the following quotation: "To recur, however, to the sentence we quoted in the beginning of this note—namely, that 'this American company which, according to its own statement, is flooding the English newspapers with advertisements of this quack medicine'—we may take this opportunity of reminding judges, journalists, and others whom it may concern that to the patent medicine advertisements of the past half-century they and all England owe, in a very large degree, and more, probably, than to any other influence, the wonderful development of the cheapness and consequent power of the press, which is one of the greatest features of the Victorian era."

This seems equivalent to saying that it is good to foster quack medicines, although it may be at the expense of a legitimate materia medica, and of sound morality and truth, and health, because quack medicines impose an enormous popular tax, by which a powerful press is supported.

The chemical progress of 1887, which relates directly or indirectly to the materia medica, has been great, and chiefly in the direction of the production of artificial alkaloids.

CONINE.

A. Ladenburg has made one of the most complete and perfect syntheses yet recorded, in his artificial production of conine.

His work appears to have been in no sense or degree the result of accident or chance, but a patient, laborious building up from the elements. His paper is published in the Berlin *Der Deutsch-Chem. Ges.*, xix, 2579–2583, and an abstract in English is given in the *Journal Chem. Society* (London) for 1887, p. 160, and the Year-book of Pharmacy for 1887, p. 76.

He first makes acetic acid from its elements, then by building upon these he gets a-picoline. Next, by the reaction between paraldehyde and alpha-picoline, he gets alpha-allylpyridine. This latter, reacting with sodium, is reduced to alpha-propylipiperidine, which resembles conine very closely, but is not identical with it. Separated into two bodies by crystallizing the one from the other, he gets an active base identical in all respects with the natural base from *Conium maculatum*, or spotted hemlock. The artificial alkaloid converted into hydrochlorate is physiologically, as well as chemically, identical with the hydrochlorate of the natural alkaloid.

CODEINE OR METHYLMORPHINE.

In a paper entitled "The Chemistry and Pharmacology of Some of the Derivatives of Morphine," by Mr. D. B. Dott and Dr. R. Stockman, of Edinburgh, read at the British Pharmaceutical Conference at Manchester, and at the Ninth International Medical Congress at Washington, and published in the Year-Book of Pharmacy for 1887, p. 538, the authors confirm the results of Grimaux in 1881, who first made artificial codeine from morphine, and showed that natural codeine was really methylmorphine. In this paper it is conclusively shown that the natural codeine from opium, and the artificial codeine, are not only chemically but also physiologically identical so far as the action upon frogs, rabbits, and dogs goes, and it now only remains to be seen whether the inference that the therapeutical action is identical, be correct.

This paper also gives an account of investigations upon other derivatives of morphine, which are of interest and importance.

The artificial codeine—or perhaps rather the process for it—has been patented by Mr. Dott. But the same alkaloid is made in Germany by another process, which, even if also patented, will have the result of making a wholesome competition if codeine should come into any considerable use. As yet, it does not appear to have been much advertised.

SACCHARIN.

It is stated by several authorities that the new coal-tar derivative of Dr. Fahlberg, named saccharin, not saccharine, is quite innocuous in the human stomach, and does not increase the quantity of urine or of sugar in glycosuria, thus far showing by experience that it may be used without harm for sweetening the ingesta of diabetic patients.

But it has also been shown to be an antiferment of about the same power as boric acid, and MM. Aducco and Mosso show that it retards the action of pepsin and ptyalin when present in the very small proportion of 0.16 per cent. From this its effects on digestion in such proportion would be unfavorable, but perhaps not seriously so even in such a disease as glycosuria. Much smaller proportions than this are effective in sweetening food and drink, and retard digestion less.

FLUORINE.

Mr. A. E. Tutton gives in *Nature* for December 22, 1887, a full and most interesting account of the isolation of fluorine by M. Henri Moissan, whose paper on the subject appeared in the December number of the *Annales de Chimie et de Physique.*

This hitherto unsolved problem is one of the greatest achievements of modern chemistry, and some idea may be formed of the difficulties, from the fact that it required three years of almost incessant labor, through many failures; that most of the apparatus had to be of platinum, and that platinum tubes thirty-one inches long and half an inch in diameter were destroyed in each of the earlier experiments.

The element fluorine was obtained by the electrolysis of hydrofluoric acid. It is a gaseous element which attacks all known substances with such energy that there is nothing of which to make vessels that will hold it in a free state. Its union with hydrogen, even at a temperature of 23° C., is explosive.

ANTIPYRINE AND ACETANILIDE.

Of the numerous synthetical substances proposed and extolled as antipyretics, only two remain as being of much practical importance. These are antipyrine and antifebrine, and they have been so recently discussed in their relations to fever that but little remains to be said under that head, but more upon their effects as analgesics or anodynes.

Antipyrine or oxydimethylchinizine was made by Dr. L. Knorr, of Erlangen, in 1884, and investigated by Filehne. It is readily soluble in water and alcohol, yielding solutions of but slight taste, and not disagreeable. The dose is from fifteen to thirty grains two or three times a day.

Antifebrine or acetanilide or phenylacetamide was made by Gerhardt in 1853. It was investigated as an antipyretic by Kussmaul, of Strassburg, in 1886, whose favorable report was soon corroborated by other observers. It is but slightly soluble in cold water, but freely soluble in diluted alcohol, brandy, or wine. It produces a slight burning sensation upon the tongue, but in solution is not disagreeable.

The ordinary dose is from four to fifteen grains two or three times a day. Antipyrine is controlled by patents, and costs about $1.25 per ounce. Antifebrine, as a proprietary name, is controlled by patents, and when bought under this name it costs about thirty cents per ounce. The name acetanilide, for exactly the same substance, is not and cannot be controlled in any way, and under this name it can be bought for about fifteen cents per ounce. As acetanilide is about one-eighth the price of antipyrine, and effective in half the dose, it is far the more economical in use.

The two agents are about equal in power to reduce the temperature in fever, but acetanilide is generally believed to be less liable to produce profuse sweating and tendency to collapse, and to chill as the action passes off. Whether they are best used in small doses, frequently repeated, or in large, infrequent doses, seems as yet undecided.

Their effects in reducing fever temperatures by 1 to 5° F. is, undoubted, and it is also beyond doubt that this reduction does, in many cases, but not in all, render patients with very high temperatures more comfortable during their administration. But that they have any curative effects, or any power over the duration, course, or termination of continued fevers is doubted by most writers. It is nevertheless difficult to resist the very rational conclusions of some careful observers, that when the agents are carefully and skilfully used only in cases of hyperpyrexia, and then only in such quantity as to reduce the temperature by one, two, or three degrees, in proportion to the elevation, or to within the moderate range of 101 to 103° F., they must have a favorable influence upon the gravity and termination of severe cases, if not upon the duration and course. If very high temperatures do not destroy life, nor very moderate temperatures indicate safety to life, still the latter are so much more desirable, from every point of view, that agents which command them must all be of value, antipyrine in some cases, acetanilide in others, cold sponging or wet pack in still others; and the most successful physician is he who, by discrimination or by trial, gets that agent which best fits the special case in hand.

All through the past year evidence has pretty rapidly accumulated to the effect that both antipyrine and acetanilide are useful analgesics in almost every variety of nerve pain. The pains of rheumatism, gout, neuralgias of various kinds and degrees, sciatica, lumbago, migraine and the pains of locomotor ataxia, all seem to have been effectively controlled by both agents, and apparently as well by the one as the other. But there is great discrepancy in the quantities used, some observers getting their effects from small doses, others from large ones.

COCAINE.

During the past year the applications of cocaine have practically ceased to multiply, and many of those of previous years are no longer heard of. The more conservative uses of it are, however, extending, and the increasing quantities sold suggest a question as to what becomes of it. Large quantities are undoubtedly made into proprietary "wines of coca" and other nostrums, but these take the cheaper kinds, and perhaps thus mitigate the growing vice of coca tippling. The current literature has been almost without evidence as to whether the cocaine habit is on the increase or not.

One fortunate circumstance seems to be that it is not attractive to as large a proportion of persons as opium or tobacco, and that its effects place it intermediate between these two narcotics.

As the effect of being a new agent wears off, and as it disappears from the public prints, it may be hoped that, as the material for a dangerous vice, it may be neglected and measurably forgotten.

In the uses of cocaine during the year the general fact has been abundantly supported that, wherever a mucous membrane or an absorbing tissue can be reached by it, the anæsthetic result is sure. Therefore its utility in dysentery, gonorrhœa, affections of the nose and pharynx, and some affections of the stomach, are easily understood. But the use which throughout the year seems to have been most strongly emphasized is in the obstetric art, and this use is well summed up in an admirable paper of Mr. John Phillips, in the London *Lancet* for November 26, 1887, p. 1061, entitled, " The Value of Cocaine in Obstetrics." The author of this short and pithy paper concludes from other competent authorities and his own experience that in the vomiting of pregnancy, whether administered by the stomach, hypodermically, or by topical application to os, cervix and canal, it is a valuable agent, and in many cases will succeed when other agents have failed. That during the earlier stages of labor, especially in primiparæ, it materially assuages the pains, but neither quickens nor retards them, and therefore has no effect on the dilatation. That during the expulsive stage it is useless. That its utility in operations is probable but not proven, and that in sore nipples it relieves the pain of nursing without detriment to the nursling.

CONVALLARIA.

It seems to be about time to try to sum up the professional verdict upon convallaria. Proposed by Russian authorities in 1880 as having some advantages over digitalis, it did not attract much attention until 1883, when it became quite fashionable, and was much used as a cardiac stimulant or tonic. In general effect upon the heart it resembled digitalis, but was not cumulative in action, was more certainly diuretic, and less liable to disorder the stomach. While resembling digitalis in its effects, these effects were the result of a cause different from the the cardio-inhabitory excitation of digitalis. It was therefore adapted to a different class of cases from digitalis, and these not easy to recognize until convallaria was applied with success where digitalis had failed. It was also shown that it was not as dangerous from overdosing as digitalis. That digitalis is liable to cumulative activity, is the general statement of the books, but if it has any such tendency it is so easily seen that it is doubtful whether the immunity of convallaria from any such risk gives it the claimed advantage. Most of these points, made in the journal literature of 1883-4-5, seem to have been supported by practical experience, and yet convallaria has largely gone out of popular use, while digitalis has maintained its ground. Many good observers continue to use both, but in most cases use digitalis first, and only change in case it fails to meet their indications. Hence, convallaria may be considered to have settled into the rôle of an useful alternate for digitalis, thus adding to the resources of the general practitioner.

IODOFORM.

Since the enthusiastic general introduction of iodoform into medicine and surgery by Van Mosetig-Moorhof in 1879, the substance has been very generally and very successfully used as an unirritating anodyne application, under which unhealthy and unnatural processes are corrected or retarded, and healthy action substituted.

Much of its beneficial activity has been attributed to antiseptic action or power, and it has been generally supposed that under its use septic processes were impossible. While its general and special utility has been so widely accepted as to be well-nigh universal through six years of increasing application and reputation, and while there is no reasonable doubt that its great reputation is entirely sound, its chief mode of action has been this year called in question and denied by good authority. Its two prominent characteristics were that it was antiseptic and anodyne, these being its principles of action. About a year ago C. Heyn and T. Rosving, of Copenhagen, published a paper which has attracted much attention by claiming, on the basis of careful research, that iodoform is not antiseptic, but that micro-organisms will grow freely in it. These results were very promptly and very rudely called in question, and denied, but thus far they do not appear to have been controverted by counter-research.

The results of the Copenhagen investigators were foreshadowed by others before them, but not on such grounds.

In whatever way this dispute may be ultimately settled, it can hardly disturb the established utility of the substance. But it will be a shock to find that it has not been killing germs all this time, but has been curing in some more peaceful way.

IODOL.

In 1885–6 Drs. Silber and Ciamician, of Rome, made a combination of iodine with pyrrhol, a tetraiodopyrrhol, which they called iodol. It contained 85 to 90 per cent. of iodine, while iodoform contained 96 per cent., and was similar to iodoform in many respects, but devoid of odor. Dr. Mazzoni, of Rome, investigated the new substance, and pronounced it a powerful antiseptic, with anæsthetic action.

It seemed applicable to all the uses of iodoform, but had the great advantages over iodoform of being free from odor, and not poisonous under any ordinary quantities. It has been considerably used as a substitute for iodoform, especially in Berlin and Vienna, and the reports upon its use are very generally favorable. It is, however, too early to know whether its advantages over iodoform will be sustained by general experience. And if iodoform should be proved not to be an antiseptic it would follow as a probability that iodol is not.

PAPAIN.

Papain, the vegetable digestive ferment obtained from the unripe fruit of *Carica papaya*, or Papaw, has been again brought into notice as an active alternate to pepsin. While pepsin is inactive, in neutral and alkaline conditions, papain is active, and therefore, in using the latter it is not necessary that any free acid should be present. Pepsin with acid, and papain without, are claimed to be equal in activity and power, and if so there are quite a number of conditions to which papain is applicable to which pepsin is not.

It therefore appears rational that in dyspepsias which are not relieved by pepsin, papain may, as is asserted, be useful, and thus become an additional resource for the practitioner. An admirable paper by E. J. Eastes on papain may be found in the *Pharm. Jour. and Transactions*, London, for July 11, 1885, p. 45, where a good summary up to that date is given.

PARALDEHYD.

Although paraldehyd has not sustained the promise of its early advocates it is still used as an alternate hypnotic. The statement that it has no stage of excitement, has been successfully called in question, but when given in full doses the excitement is so slight and so short that it is difficult to detect, and no practical disadvantage. The statement that it is safer than chloral, in having no depressing action on the heart, seems to be sustained by experience, but it is not always free from some degree of after disturbance. The great drawback to its use, that it is disagreeable and even difficult to administer, has not been overcome, and it has not been shown to be effective when chloral has failed, but has been shown to be available when chloral was counter-indicated. The dose of one to two fluid drachms requires about twelve times the quantity of water for easy solution, and this seems to be about the best way to administer it.

It is singular that the original observation of Cervello or Cercello, of Palermo, in regard to its antagonism to strychnine has not been noticed to have received useful recognition, nor to have been refuted. Dujardin-Beaumetz, like Cervello, gave the paraldehyd to rabbits first, and then the strychnine, while Bokai gave it to the rabbits mixed with the strychnine. Such an antagonism is not available in the treatment of strychnine poisoning. It seems hardly possible that such an important antagonism has not been farther investigated, and much more probable that the writer has missed finding the records.

In human cases of strychnine poisoning Bokai suggests 6 to 10 grammes of paraldehyd twice daily, until prolonged sleep is procured.

SALOL.

The substance salol is hardly old enough as yet to warrant any safe conclusions in regard to its value. The best account of it met with in English is in a paper by Mr. John Moss, F.I.C., F.C.S., published in the Year-Book of Pharmacy for 1886, p. 526, his information having been chiefly derived from *La Semaine Medicale* of April 14, 1886.

Made by Von Nencki and investigated by M. Sahli, both of Berne, it was presented to the local district Medico-Pharmaceutical Society, on April 6th, 1886. The process of making it has not been published by the maker, but a process has been published by C. Kolbe. It is probably controlled by patents both here and in Europe. It is a combination of salicylic acid and phenol.

It appears to consist of 56 to 62 per cent. of salicylic acid and 44 to 38 per cent. of phenol, and chemically it is said to be a salicylate of phenol (Sahli) or salicylate of phenyl (Moss).

It is a white, coarse, crystalline powder, with the odor and taste of wintergreen in which carbolic acid is suggested. It is insoluble in water and acid liquids, but soluble in diluted alcohol, and in alkaline liquids. It is therefore said to pass through the stomach undissolved, but to be dissolved, dissociated and utilized in the intestines, and execreted as urate of salicyl and sulpho-phenol.

It is proposed as a substitute for salicylate of sodium and phenol in all conditions to which either is applicable, and it certainly has the great advantage over both in facility of administration.

The doses advised are about 30 grains three or four times a day, and each of such doses represents about 17 grains of salicylic acid and 13 of carbolic acid, very effective quantities of each.

It has been effectively advertised as a novelty, and, as usual, the list of affections in which it was used and extolled by Sahli and others is long and hardly rational. In solution it can hardly fail to be antiseptic and antipyretic if dissociated into its elements, and it is therefore very rationally applicable to the treatment of rheumatism, sciatica, and neuralgias.

Most of those who have written upon it have used it as a substitute for sodium salicylate, and have compared it with that salt, but these comparisons are conflicting, and it is easy to see are not yet free from interest or prejudice.

It certainly has one advantage over the sodium salt, in not producing a primary disorder of the stomach. Being insoluble in watery fluids, especially when these are acid, in the stomach, it passes through that viscus inactive, and only becomes soluble in the small intestines. But when pushed it does disturb the digestion secondarily as the sodium salt does. Farther observation is necessary to show that it has any other advantage over the sodium salt, for which it is an alternative in about the same doses.

STROPHANTHUS.

In the *Pharmaceutical Journal and Transactions* (London) of January 4, 1873, p. 523, is an abstract of an article from the *Journal of Anatomy and Physiology* (Edinburgh), vol. vii, on "The Kombé Arrow Poison (Strophanthus) of Africa. By Thomas R. Fraser." This very interesting account of strophanthus is the first notice of it that has been found, and seems to be the beginning of Mr. Fraser's published investigations of the substance since brought into such prominent notice. He then obtained a crystalline active principle from the seeds, which he found to be a glucoside and called it strophanthin.

The next publication met with is a paper by E. Hardy and N. Gallois in *Comptes Rendus*, vol. lxxxiv, p. 261, in 1877, where the active principle is described as being neither an alkaloid nor glucoside. The hairs removed from the seeds were found to contain an alkaloid, but devoid of the peculiar action of the seed on frog's heart.

Then, with one or two unimportant notices, nothing has been noticed on the substance until the meeting of the British Medical Association at Cardiff, July 28, 1885. At this meeting Mr. Fraser read a paper on "The Action and Uses of Digitalis and its Substitutes, with Special Reference to Strophanthus (Hispidus ?)."

This very interesting paper is published in the *British Medical Journal*, vol. ii, for 1885, p. 904.

In this paper Mr. Fraser states that his investigations of strophanthus had begun in 1870, and that he had been preceded by M. Pelikan, of St. Petersburg, in 1865, and by Drs. Hilton Fagge, and Stevenson in the same year. The author says that want of the material, and other unavoidable circumstances, interrupted his investigations for some years, but that in view of the probable importance of the subject he had resumed it when able to do so. He regards the action of strophanthus as exceedingly simple. It may be described as a simple muscle-poison to the striped muscular system, and because the heart receives a larger share of any circulating muscle-poison it is more affected by it. In lethal doses it stops the heart in extreme systole, and the rigidity of the contraction passes into the rigor of death. The changes produced by moderate doses upon the heart's action are those produced by digitalis. It causes a rise in the blood-pressure, but in a less degree than digitalis, and like digitalis it is actively diuretic.

Therapeutically, it was not very thoroughly compared with digitalis, nor was its active principle very thoroughly compared with digitalin, except upon the frog's heart, but upon the frog's heart it was some sixty times more potent than digitalin. The author concludes that the action of strophanthus on the heart is much more powerful than that of digitalis, while the action upon the blood-vessels is much weaker, and upon this observation he reasons that it may be better and safer than digitalis, because the latter by greater contraction of vessels antagonizes a part of the increased power of the heart by increasing the resistance to it in the vessels. By this action digitalis becomes an hæmostatic, an action that is wanting in strophanthus.

Both are valuable diuretics, and as strophanthus does not much increase the blood-pressure, it is argued that this blood-pressure is not the essential factor in diuresis.

From his limited application of the two agents he is led to believe that sickness and gastro-intestinal disturbance are not produced so frequently by strophanthus as by digitalis.

He occasionally used strophanthin hypodermically, but found it sometimes produced inconvenient irritation at the point of injection.

This is a very unsatisfactory resumé of this important paper, but it may serve the purpose of making a resumé of what has since been written on the subject intelligible. The subject attracted much attention, and a large amount of testimony has been published during the past two years and a half, and therefore it will be difficult to discriminate between the accurate and the loose observations so as to sum them up fairly.

In the *British Medical Journal* of September 17, 1887, vol. ii, of 1887, p. 620, under the head of "Notes on Strophanthus, by K. N. Bahadhurji, M.B., B.S., Lond., (From the Pharmacological Institute Berlin,)" there is an important paper wherein the author shows that strophanthus is something more than a simple muscle-poison, and that the nervous system is markedly affected by it, and this not secondarily through the heart and circulation, but primarily, because in small doses, which do not appreciably affect the heart, nervous symptoms are observed. In one case there was paralysis of the animal, followed by tetanus, in which the animal remained for three days, the heart being not the least affected.

This conclusion, that strophanthus is not a mere muscle-poison, is also reached by a Russian authority, Dr. Kazem-Bek, who gives evidence that the action upon the heart is, at least partly, through its nerves. (See London *Lancet*, December 3, 1887, p. 1136.)

So much has been written upon the therapeutic effects of strophanthus, from Mr. Fraser's investigations down to the present time, that no one can doubt its potency and value as a heart tonic, and its useful applicability to both functional and organic derangements of the heart. That it has been badly managed, and that it is simply impossible that it could have done all that is credited to it in organic diseases of the heart, must be admitted, for no new remedy escapes this history; but whether, upon a fair average, it has any advantages over digitalis seems doubtful.

That it is not a duplicate of digitalis is very evident. Each agent has a power and applicability of its own, and neither is likely to supplant the other. Neither is it a duplicate of convallaria, although much of the testimony in regard to it is very similar to what was written of convallaria in the early part of its therapeutic application. Hence, as an addition of real value to the materia medica, it is at least of present importance, and accumulating experience alone can decide whether it has sufficient individuality to sustain its present importance. Many instances are reported in which it has been successfully applied after digitalis, convallaria and other agents had failed, and a few in which other agents were effective after it had failed.

Several writers of eminence, whose cases must have been both well understood and well observed, report favorably of its control over the threatened heart failure in exhausting diseases, such as typhoid fever, but do not compare it with digitalis in a similar class of cases. In many cases, where patients were dying of dyspnœa, "water-logged," from either primary or secondary cardiac insufficiency, it has been of great service. Its diuretic action is at least as good as that of digitalis, but either one will at times fail when the other will succeed, and not infrequently both fail. It is alleged to have a great advantage over digitalis in not being cumulative, as digitalis is said to be. This cumulative action of digitalis is perhaps generally understood to be some degree of toxic explosion, but as any definite account of such action from digitalis has been sought for in vain in all the comparative effects of this class of agents, it must be extremely rare, and perhaps it may be a legend handed down by the books from times when digitalis varied more in quality, strength and dosage than at present, or when the relation between cause and effect was less accurately observed. If by cumulative effects is meant the liability, after a time, to disturb the stomach and cause nausea, vomiting, etc., then the records seem to show that strophanthus does this as often as digitalis. One point recently gained in the use of strophanthus should be rigidly adhered to. A tincture of the seed only should be used, and this of the strength of 1 part by weight of the seeds to 19 parts by weight of the officinal diluted alcohol. That is 1 in 20 by weight. This is sufficiently near to Mr. Fraser's more recently adopted strength, as recommended by Mr. Wm. Martindale, of London. The dose of such a tincture is stated to be 5 to 10 minims three or four times a day, that is, 15 to 30, or 20 to 40, minims in the twenty-four hours, but it has often appeared that 2 to 3 minims every two or three hours, until the heart was steadied, was a better dosage, and then to vary this in either quantity or time to suit each case. The doses have been found to be best given in half-a-wineglassful of water, mixed at the time of taking, and when so given the effect is not unfrequently felt by the patient and at the wrist within fifteen minutes. The tincture is quite bitter, and for hypersensitive patients capsules may be half-filled with loose liquorice powder, and the dose dropped upon this.

The active glucoside strophanthin has been used hypodermically, but with doubtful advantage, at least until it can be made better and at lower cost. At present the price is about ninety cents per grain; and it is in a semi-liquid state difficult to manage with accuracy; and is so potent as to be very dangerous, and only one or two manufacturers are as yet making it, although three years have passed since Mr. Fraser published his process and description.

Mr. Fraser has always published freely all that he knew of strophanthus and strophanthin, and seems to have taken pains to keep the subject freely open to the profession in every possible way, so that no one could claim any exclusive proprietorship in the drug or its preparations.

URETHANE.

Urethane or ethyl-carbamate was proposed as a simple hypnotic by O. Schmiedeberg, Professor of Pharmacology in the University of Strassburg, in a paper "On the Pharmacological Action and Therapeutic Application of Some Ethereal Salts of Carbamic Acid." This paper is found in *The Practitioner*, for 1885, vol. xxxv, pp. 275–328–417.

Its effects as an artificial hypnotic compound were foretold from its composition when it was made and applied, and justified the expectations of the author. His paper closes with the following paragraph:

"Urethane can therefore be used in general as a hypnotic, and we foresee that it will frequently be of special use in those cases where the smell and taste of paraldehyde interfere with its use, and where the action of chloral hydrate on the heart, vessels, and respiration must be avoided. This compound is no more a universal remedy to produce sleep than any other substance, but a consideration of its pharmacological relations will enable the practitioner to choose the cases correctly in which a satisfactory result is to be expected from it; while tentative trials without any definite plan will here, just as in the application of medicines in general, lead to the disappointment of cherished expectations."

Von Jaksch, of Vienna, reported favorably upon it in 1885—see abstract in the *British Medical Journal* for 1885, vol. ii, p. 611—having used it in 20 cases 110 times.

Riegel, of Vienna, used it 67 times in 27 cases, favorably, as a simple hypnotic, without any anodyne effect.

Dr. A. S. Myrtle, Harrogate, used it in over 50 cases, with general satisfaction.

MM. Mairet and Combemale, of Paris, used it 300 times in 37 insane patients, with general success.

Mr. J. F. Paley, of Brighton, England, used it in 10 cases with benefit in about half the number, but Dr. Uthoff and Mr. Scott at the same time reported that in several cases it had given no satisfactory results. And Dr. Mackay had seen no marked benefit from it.

Dr. Robert Saundby, of Birmingham, reports 2 successful applications. Sir E. H. Sieveking, of St. Mary's Hospital, used it in 12 cases with general success.

Dr. Coze reports many experiments on animals, (the *British Medical Journal*, vol. ii, 1886, p. 176), wherein the antagonism of urethane to strychnine was conclusively shown, and Dr. Coze asks for clinical application in convulsive conditions.

Mr. William Thomas Jackman, F.R.C.S., etc., (London *Lancet*, vol. i, 1886, p. 1112), reports a case of traumatic tetanus treated first with chloral with some benefit, but afterward with urethane alone, with prompt relief and final recovery.

Dr. Emil Kræpelin (the *British Medical Journal*, vol. ii, 1886, p. 468, from *Neurologisches Centralblatt*, March 1, 1886), reports the use of urethane in about 200 instances, most of them cases of insanity, with very general success. He thinks it is a simple hypnotic of no great energy, which in cases of great excitement is of little value. In delirium tremens it failed entirely, and for the relief of pain is of no use whatever. In his general success with it doses of 1 gramme (15.5 grains) were effective in 54 per cent. Doses of 3 grammes (46.5 grains) were successful in 70 per cent.

Drs. Otto and Kœnig used it in a large number of insane patients, often in very large doses, and found it frequently very serviceable.

Dr. J. B. Andrews, of Buffalo, N. Y. (*American Journal of Insanity* for October, 1886), used it upon himself when in health, and then upon more than 20 cases, in doses of 7 to 60 grains. He found it generally successful, and most successful when in a single full dose.

Dr. E. Braun (London *Lancet*, vol. ii, 1886, p. 411, from the *Eira*), a sufferer from insomnia attendant upon "heart disease," tried urethane on three successive evenings in doses of 2 grammes—2 grammes at first and 1 gramme additional in an hour—and on the third evening 3 grammes in one dose, all without success.

Dr. Hans Rottenbiller (*Amer. Journ. of Med. Sciences*, vol. i, 1887, p. 224, from *Centralblatt für Nervenkrank*, etc., No. 10, 1886), used it subcutaneously in 14 patients by 240 administrations; with 7.5 to 15 grains he secured about four hours sleep the first few days, then only one or two hours. From 30 to 60 grains, six to eight hours tranquil sleep in 8 patients. In maniacal excitement it failed altogether, and paraldehyde was used with success. All his patients were insane, and his results were generally favorable.

With the exception of single cases and editorial comments, these are all the important reports that have been noticed in regard to urethane; and from these the following conclusions are drawn:

Urethane appears to be a simple hypnotic of too little sedative power to overcome any great degree of nervous excitement, but of sufficient power to be very useful in a large class of cases of simple primary insomnia.

It is in no very useful degree anodyne or analgesic. That is, when insomnia is secondary, or the result of pain or other serious peripheral disturbance or irritation, it is almost useless. In action on the sensorium it is like paraldehyde, but less powerful, while both are much inferior to chloral in power.

Of all the hypnotics it has much the least disturbing effect upon the functions of the organism, and therefore the sleep obtained by it is most natural, and most refreshing and restful, and its effects are least counteracted by subsequent hurtful reaction, yet it is not free from disagreeable reaction when used in large quantities.

In breaking up a simple habit of insomnia, the original cause of which may have passed or become weakened, and in concentrating fitful, short and broken sleep into that which is more sound and continuous, it is often very effective, and this without the subsequent headache, loss of appetite, disturbed digestion, etc., of the more powerful agents of its class. It is transient in effect, and soon establishes a tolerance which requires larger and larger doses until it becomes as disturbing in its after effects as other more powerful agents, but, unlike these, it does not appear to be toxic in any quantities up to 12 grammes, 186-grain doses.

The effective dosage seems to vary from 15 to 60 grains; and although many reporters obtained excellent results from 6, 7, and 8-grain doses, these had so often to be repeated in other cases before any effect was reached, that there does not seem to be any economy in exceptionally small doses, especially in view of the observation of Dr. Andrews, of Buffalo, that its best effects were best secured by single full doses half an hour before the desired effect, this half-hour, to be passed under the conditions of quiet and repose which most favor sleep.

The administration of urethane is most simple and easy. It is freely soluble in twice its weight of water at ordinary temperatures although some good authorities describe it as insoluble, and the solution, even when concentrated, is not very disagreeable.

When the dose is diluted with half-a-wineglassful of water or more, it is easily taken even by the fastidious, and does not offend the stomach. Given upon an empty stomach, it is often very rapidly absorbed, and then yields its effects within fifteen or twenty minutes. When the stomach is slow, or in a passive condition, the effects are proportionately less prompt.

Some have reported using it hypodermically with success, as it does not seem to be irritant when placed under the skin ; but the dose being large, the solution has to be dense in order to get it within convenient limits for hypodermic use. The observer who used it most largely in this way, did so for economy sake, because the substance was so costly—say over two dollars per ounce ; but within the past year or two, when there were several makers of it, the price has been moderate, not over fifty to sixty cents per ounce.

As might have been expected from the character of Schmiedeberg, he has never attempted to patent or control urethane in any way, nor has he allowed any one else to do so. He described the process for making it fully and freely, and very soon it was made by several makers.

Throughout this note urethane is written with a final *e*, in respect for Schmiedeberg's authority, as it must be admitted that the author of the name has the right to spell it as he pleases, and probably has reason for spelling it as he does. But common usage, in English at least, has dropped the final *e*, and it is now written and pronounced urethan.

DRUMINE.

In 1886 Dr. John Reid, M.A., of Port Germein, South Australia, claimed to have discovered an alkaloid in *Euphorbia Drummondii*, which was a local anæsthetic like cocaine, and which he called drumine.

On January 6, 1887, Dr. Alexander Ogston, C.H., of Aberdeen (see the *British Medical Journal*, vol. i, 1887, p. 451), received from Dr. Reid forty grains of the new alkaloid for trial. He carefully tried it upon his own person, upon an assistant, and upon two patients, without any perceptible effect. He therefore concludes either that the substance must have decomposed in transit, or that Dr. Reid is mistaken in his statements concerning it.

GLEDITSCHINE.

During 1886 a Mr. Goodman, veterinary surgeon, claimed anæsthetic effects from a poultice of the leaves of *Gleditschia triacanthos*, the common honey locust; and Dr. Allen M. Seward of Bergen Point, N. J., claimed to have obtained an alkaloid with anæsthetic action from leaves of the tree received from Mr. Goodman.

Dr. J. H. Claiborne, Jr., of New York, received from Dr. Seward a solution of this new alkaloid, and finding it to be a very active local anæsthetic, wrote two papers on the subject (the *Medical Record*, July 30, 1887, p. 127, and for October 1, 1887, p. 445), from whence the above statements are made.

These attracted prompt attention, and in the same journal for August 13, p. 180, Dr. Herman Knapp, of New York, has also an important paper extolling the new anæsthetic. Other papers and notices soon followed, and the demand for the two per cent. solution was very active, at very high prices, until November, when Dr. F. G. Novy, of Ann Arbor, published a paper in the *Pharmaceutische Rundschau* of Dr. Fr. Hoffmann for that month, p. 248, in which Dr. Novy showed that the two per cent. solution of gleditschine or stenocarpine was a solution of about six per cent. of hydrochlorate of cocaine, with five-tenths of one per cent. of sulphate of atropine, the solution having been protected by salicylic acid.

HOPEINE.

Early in 1886 Dr. W. Williamson, of London, claimed the discovery of an hitherto unknown alkaloid in American wild hops, which he called hopeine, and described its action as being similar to, but not identical with, morphine. This novelty was produced and controlled by the Concentrated Produce Company (Limited), of London, who represented that it was not present in the ordinary hops of the markets, but only from American wild hops. When on trial in France the new alkaloid was suspected, and not long after was shown to vary in different samples from the original source. Then several chemists found it to be at times almost all morphine, and at other times mixtures of morphine and cocaine.

Like gleditschine, it attracted a great deal of attention, and the literature of the subject is pretty extensive, and winds up with the authoritative statement of Asa Grey, that although he had seen the hop plant growing wild in America, yet never in such a way that he could have gathered a pound of the dried hops.

ARTICLE V.

Report of Cases of Intestinal Obstruction Treated by Laparotomy.*

By William T. Bull, M.D., Surgeon to the New York Hospital.

It will be generally acknowledged that the treatment of intestinal obstruction is at present a very puzzling problem. Rarely do cases that present grave symptoms recover with purely medical treatment, and when they do, there is often much doubt as to the correctness of the diagnosis. When surgical treatment is adopted, the majority die. Schramm's collection of one hundred and ninety cases,† published in 1883, showed a mortality of 64.2 per cent. And time, which has perfected details in the operative technique and recorded an improved rate of success for laparotomy in other conditions, has not shown any bettering of the statistics of this operation for obstruction. Dr. B. Farquhar Curtis, who has just completed a collection of three hundred and fifty cases, tells me that the rate of mortality is 68 per cent. This increasing rate of mortality would make it appear at first sight as if surgery were not likely to attain great success in this field. And yet I am convinced, to the contrary, that the operative treatment has not yet had the trial which it deserves, and, furthermore, that the doctrine long ago laid down by surgical writers of early operative interference has not yet been followed in practice by the profession at large. One has but to note the records of cases appearing frequently in the journals in order to be convinced of this. And it is interesting to note that, in recent discussions of this subject before the surgical societies of Berlin and Paris, much thought has been given to the proper procedure in cases where the cause of the obstruction is obscured by tympanitic distention of the bowels, a condition that develops gradually, and becomes of such extent as to be baffling to the surgeon only in the later stages of the disease. It may be safely averred that much of the perplexity which besets the operator in cases of late operation, much of the danger attending the patient, and a great deal of the doubt as to the proper procedure, and uncertainty as to the result, would be swept away if we would adopt the plan of early operative interference.

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* A paper read at the meeting of the Practitioners' Society, New York, February 3, 1888.

† Archiv für klin. Chirurgie, xxx., s. 685.

But it is not my purpose to discuss this point, on which I am sure most of you would agree with me, but rather to illustrate the method of operative treatment by narrating those cases which have fallen under my own observation. Of five cases, three have been of an acute character. The first one, but for the distance from town, would have doubtless been operated on earlier. It is as follows:

CASE I. *Intestinal obstruction by a peritoneal band; peritonitis; laparotomy on the eleventh day; death.*—Miss E——, aged thirty, who had been previously in good health, living on a farm near Summit, N. J., and doing some household work, was seized with colicky pains in the epigastrium, July 17, 1886. After a loose passage the pain lessened. Next day it recurred, and vomiting began, which became fecal in character after a few hours, and continued. Twice or three times in each twenty-four hours one or two pints of yellow, fluid fæces were ejected. Pain was controlled by small doses of morphine. It was not severe. No cathartics were given, and no nourishment except what the stomach would hold. On the fourth day enemata of water were administered and one or two given daily, not exceeding a quart in quantity. Twice small fecal masses were passed, but no gas. The urine was normal in quantity and appearance. The temperature had not been over 100°; the pulse, 100 to 120, not strong; the patient growing weaker every day. The abdomen had not been distended.

This history, unavoidably scanty in details, on account of the distance of the patient from her physicians, I obtained from one of them, Dr. W. H. Lawrence, of Summit, who had urged an operation long before the friends would consent. I found the patient, on July 28th, weak from want of nourishment and much dejected; pulse, 120; temperature, 100°; respiration, 30. The abdomen was flaccid, resonant, tender only in the ileo-cæcal region; no tumor was to be felt, and rectal examination was negative. I saw the matter vomited last, and it was undoubtedly liquid fæces—at least a quart in quantity. Laparotomy was performed at once, with the assistance of Dr. B. Farquhar Curtis, and Drs. Martin and Lawrence. An incision five inches long, through thin abdominal walls, disclosed the omentum spread out over and concealing the intestines, to which it was lightly adherent, and attached to the parietes of the pelvis by several thin bands of recent adhesion. After ligating these, the omentum and small intestine presenting, which was highly congested and slightly distended, were pushed upward with sponges so as to expose the cæcum and sigmoid flexure. Neither of these was distended. The finger, passed among the coils of small intestine toward the cæcum, detected a band passing from the right hypochondrium downward into the mass of coiled intestine. This band was drawn into the wound, and, from exploration with the finger, it seemed to be attached above to the parietal peritoneum, or to the colon, where it was one inch wide and one-fourth of an inch in thickness. Its length was four inches, and it passed over and compressed one segment of small intestine, to become attached to and encircle another part of the gut about eight inches distant. This loop of eight inches of the gut was deeply congested, empty, and shriveled; that on the other side of the band moderately distended. Near the intestine the band was the size of a lead-pencil. On lifting the band, the air rushed in and filled up the loop within it. The band was cut between two ligatures; the parietal, or upper end, dropped, and the intestinal end gently separated from the gut, which it encircled. The circumference of the gut, before this separation, was about that of the index finger, but its walls appeared healthy. On lifting up the disengaged loop, however, a few drops of fecal matter escaped through a small softened or gangrenous spot one-eighth of an inch in diameter. This was cut out, making a wound an inch long, and parallel to long axis of the gut, which was closed with twelve Lembert sutures. The cavity was carefully washed out with 1 to 10,000 bichloride solution. The operation lasted one hour and forty minutes, and the patient was profoundly depressed by it. The pulse increased to 140 after the cavity was opened, and never diminished in frequency. There was no more vomiting and no pain. Consciousness was regained in about two hours, and maintained till half an hour before death. The temperature was 97¾° for several hours after operation. Later it rose to 105°, and fell a little. Death occurred about twenty hours after the operation.

Here was a mechanical condition easily discoverable, and remediable by a short operation, allowed to remain undisturbed for eleven days, while the patient was suffering from inanition, and the intestine was being slowly strangled by a band. There was no obscurity of diagnosis, but help came too late. Peritonitis was beginning, as shown by the adhesion of the omentum to intestines and parietes. The manœuvre of wedging back with several sponges, the gut presenting in the median line, is worthy of note, as it allows the inspection of both sigmoid and cæcal regions, unless the tympanites be very great. The easy detection of a band by the finger, among the coils of gut, is also of interest. The gentlest manipulation of this band and the intestine it embraced did not prevent a softened spot from giving way and allowing the escape of fæces—an event which would not have happened had the operation been possible three or four days earlier.

CASE II. *Acute intestinal obstruction caused by peritoneal band; laparotomy on the sixth day; recovery.*—Mrs. V——, aged twenty-six, married, but without children, had suffered from perimetritis, or some pelvic inflammation two years before present illness. On November 5, 1887, after a hearty lunch, she was seized with severe cramps in the abdomen, and vomited the contents of the stomach shortly afterward. The pain and vomiting continued without fever and a pulse of 100, and, on the third day, the abdomen was slightly swollen. Pain was referred to the lower part. Enemata were given every day, for five days, twice, copious in quantity (two quarts) and in the knee-elbow position, but only small particles of fæces and no gas were evacuated. Treatment was morphine, liquid diet, and rectal enemata. On November 10th, the fifth day of the attack, I saw the patient with Dr. George T. Harrison. The pulse was 100; temperature, 99°. Tongue was moist; slightly furred. She complained of great thirst and general abdominal pain, and vomited a brownish mucus. Urination was normal. The abdomen was slightly swollen, nowhere tender, and presented no tumor. Nothing in rectum. Treatment continued, with the addition of irrigation of the stomach. Twenty-four hours later, November 11th, the sixth day of the attack, the condition was unchanged, and laparotomy was performed, with the assistance of Dr. Harrison, Dr. G. B. Phelps, Jr., and Dr. Claiborne. On opening the abdomen, by an incision four inches long, a small quantity of odorless, bloody serum escaped, and moderately distended coils of small intestine presented themselves, deeply congested, but free from exudation. The finger, passed into the cæcal and sigmoid-flexure region, discovered no band, tumor, or stricture, but a loop of empty gut was felt and brought to the surface after enlarging the wound to a length of six inches and pushing the distended intestine aside with sponges. The empty gut was the cæcum and about two inches of the ileum. By gentle traction I followed this empty gut into the depth of the cavity, where, to the finger, it seemed to pass behind the mesentery or under a false ligament.

It was impossible to see this point, but in manipulating the sponges and retractors, in order to bring it nearer, there came into view the appendix, with a slender band of tissue stretching from its extremity to a loop of small intestine. This band was of the size of a knitting-needle, an inch in length, and was red and raw as if torn from a large mass. It was cut between two catgut ligatures. The intestine exposed to view was then drawn out farther, till three inches of cæcum and ascending colon and about four inches of ileum could be seen. At a point four inches from the ileo-cæcal valve there was a circular groove about its circumference where the peritoneum had lost its glistening character and was opaque. This was about one-sixteenth of an inch wide. Above it the gut was deeply congested and distended, half as large as the wrist; below it the gut was of the size of the thumb and not congested, but along its mesenteric border were one or two places which appeared to have been the seat of ruptured adhesions. There was no thickening of the coats of the intestine, and during the investigation the empty part became a little congested and the contents passed freely by the circular mark described and into the cæcum. Dr. Harrison and I concluded that this band encountered at first had constricted the small intestine at the situation of the circular marking, and that the manipulation of the gut had ruptured some adhesions and released the gut *before* the band was divided. We did not think it prudent to remove the distended intestine from the abdomen, nor to open it; and, after washing out the cavity with warm 1 to 10,000 bichloride solution, closed the wound.

After operation patient vomited but once. The pulse was never above 90 or 100. The temperature was 99° or 100° at night for the first forty-eight hours. Liquid nourishment was retained, and a copious fecal evacuation occurred after a bottle of citrate of magnesia and an oxgall enema on the morning of the third day after operation. The general condition rapidly improved, but complete recovery was delayed by an abscess in the abdominal wall.

While recovery ensued without an untoward symptom in this case, the patient would have had better chances from an earlier operation, and the symptoms were certainly sufficiently pronounced to warrant it. The chief reason for delay was that the mother of the patient, her only living parent, was at a distance from the city. She was telegraphed for, but, when no improvement was noted in the first twenty-four hours that I observed her, the operation was done without waiting for her arrival. The band in this case was evidently soft and easily torn, and, had not the grooving of the intestine been seen, the success of the operation would have been unexplained. The early recognition of the empty intestine suggests a search for such a condition as an important step in the technique.

CASE III. *Acute obstruction in cancer of the sigmoid flexure; laparotomy and artificial anus on the seventh day; recovery.*—Mrs. S——, aged fifty, was visited with Dr. F. M. Townsend, March 11, 1886. She had had no serious illness except a series of attacks of intestinal obstruction, during the three years previous to the present one. The first was in March, 1884; in 1885 there were two, and one in January of this year. These were characterized by violent colicky pains in abdomen, with constipation and moderate vomiting, without swelling of the abdomen. The symptoms yielded after the administration of cathartics—the pulv. jalap co. having been given several times by Dr. Townsend in doses of forty grains. The duration of the attacks varied from four to ten days. In the intervals she was well, and relied on the regular use of Hunjadi Janos water to secure daily movements. The passages were never misshapen, nor did they contain blood or mucus. A fibroid tumor of the uterus had existed for two years, and was large enough to nearly fill the pelvis, but occasioned no symptoms. March 5, 1886, the present attack began, like the others, with pain, nausea, and constipation. On the second day there was vomiting, which continued. Calomel, pulv. jalap co., and ol. tiglii, and several copious injections of water were of no avail. On the sixth day, when I saw her, the vomited matters were fecal in odor, and the abdomen was moderately distended. The pulse was rapid; the temperature 100°. The features were slightly pinched, the surface warm, the tongue dry. The abdomen was not tender; no tumor could be felt. Urine normal, but small in quantity. Rectal examination by sound and by finger was negative, except that the presence of the fibroid tumor was made out. An operation was advised, but twenty-four hours elapsed before consent was given. March 12th, the abdomen was opened in the median line by an incision four inches downward from the navel.

I exposed the surface of the uterine tumor by pushing back the moderately distended small intestine with sponges. It occupied the greater part of the pelvis, but there was no intestine compressed by it. Cæcum felt natural, but between the centre of the sigmoid flexure and the beginning of the rectum there was a hard annular stricture, half an inch in width, which made a deep circular furrow in the gut. No mesenteric glands conld be felt, but the mesentery was fully an inch thick from fatty deposit. The gut above the stricture was but slightly dilated and congested. Although the stricture was undoubtedly cancerous, I could not reasonably entertain the idea of resection. The situation was too low down for suitable manipulation, and the patient too weak for a prolonged operation. A portion of gut distant only an inch from the stricture reached to the centre of the incision without tension. It was accordingly fixed in the middle third of the median incision by suturing it with catgut to the peritoneum after that membrane had been sutured to the skin. The gut was not opened. The general condition of the patient was not desperate; some gas had passed through the stricture during the manipulations, and I thought it wise to allow some hours for adhesions to form. The duration of the operation was one hour, and the general condition was not notably affected by it. Morphine was continued, with nutrient enemata, and a cold water coil applied. Vomiting occurred only once, the temperature was not over 101°, and the pulse rapidly improved. Ten hours after the operation I punctured the gut and allowed more gas to escape, and twelve hours later several pints of fluid and pasty fæces escaped through the puncture. Following this, food by stomach was given, and recovery was rapid. The wound above and below the artificial anus united primarily; the edges of the anus retracted so as to leave an opening the size of the index-finger, into which the mucous membrane projected. After the patient got out of bed she ate liberally and took exercise; the movements took place regularly every morning. She gained flesh, and three months after operation was in every way better than for two years past, although she complained much of the annoyance of the artificial opening. A small quantity of fæces passed the stricture, and required an enema every ten days or two weeks for its dislodgement. Six months after operation I saw her again, and found the anus narrowed by a hard tumor of the size of a walnut, which occupied the lower half of its circumference, and projected above the level of the skin and was ulcerating on its surface. The orifice of the anus admitted the tip of the little finger with difficulty, and a second, rounded, hard mass could be felt just within its upper edge.

The passages were sometimes of the size of a lead pencil, though the anus had been dilated daily with urethral bougies for several weeks by Dr. Townsend, and cathartics were necessary almost daily in order to get a movement without great efforts. But the general health was excellent. Excision of the growth was recommended, but not consented to till four months later, in January, 1886, ten months from the first operation. In the interval, notwithstanding the increasing difficulty of defecation, owing to the growth of the tumor into the lumen of the anus, its cauterization by arsenic paste, the constant discharge of mucus, and several hemorrhages, the general health and strength was apparently unimpaired. The excision of about four inches of intestine, including the artificial anus and the cancerous stricture, was done twelve months ago, and she has been ever since in better condition than before. There is no sign of recurrence at the present moment, and the patient is eager to have the new artificial anus closed by operations which I propose to undertake within a month or two, if her good condition continues.

The timely interference in this case rescued the patient from a dangerous situation, and placed her in the best condition for subsequent operation for the removal of the neoplasm. Although that secondary operation was so long deferred, the result seems likely to be satisfactory. Up to the present time nearly two years have been added to her life, and her existence, despite the unnatural anus, has been a contented one. In all cases of malignant stricture requiring operation for obstruction, I believe it preferable to pursue the plan which I adopted in this, and the following case, of relieving the obstruction first by the formation of an artificial anus, and leaving to a later operation the removal of the neoplasm by resection.

Case IV. *Chronic intestinal obstruction from cancer of sigmoid flexure; laparotomy and artificial anus; recovery.*—August 14, 1886: Mrs. J——, aged sixty, has had no severe illness, and child-births have been natural. She is well preserved and of hearty appearance. She has always been of constipated habit, and for several years past has taken laxatives to bring about movements, but has never had any attack of acute obstruction.

Six weeks ago, when constipated, was seized with severe pains in abdomen, with nausea but no vomiting, and since that time had had no movement from the bowels. After copious injections, a few teaspoonfuls of well-formed fecal matter have been passed, but nothing more. Purgatives have caused vomiting. Wind has passed freely. There have been frequent paroxysms of pain, unless suppositories of morphia (gr. j.) and belladonna (gr. ss.) were employed. Two days ago, under ether, an O'Beirne's tube was introduced thirteen inches, and two quarts of water introduced through it. This was followed by a trifling amount of fæces. Her diet has been of fluid character, and rectal injections have been freely used. Her general strength has kept up well; much of the time she has been out of bed, and she has withstood a journey from Asbury Park to-day without marked fatigue.

Pulse 96; respiration 18; temperature 98½°. Tongue clear and moist. The abdomen is lightly distended but flaccid, and nowhere tender. In the lower iliac and lower lumbar region an indistinct mass of the size of a banana is felt. It is not fixed to the wall of abdomen or pelvis, and percussion over it is normal. After palpation of the abdomen for several minutes by Dr. A. B. Ball and myself, the peristaltic movement of the intestine could be detected in the umbilical region and on the right side, and the mass felt on the left side changed its shape, and even at one time disappeared. Liver, spleen, and heart normal. Rectal examination negative. Urine is said to be normal in quantity.

Two days later Mrs. J—— was visited by Dr. Janeway, who passed the rectal tube again for me. Three pints of warm water were injected, held a few minutes, and then passed with the addition of a tablespoonful of flaky fecal matter. It was thought by both Dr. Janeway and Dr. Ball, as well as myself, that the most probable diagnosis was cancerous stricture of the sigmoid flexure, though the possibility of impaction of fæces was admitted, as well as constriction of the gut from some other cause, such as adhesions and bands. Explorative laparotomy was recommended. Dr. Didama, of Syracuse, had previously expressed a similar opinion. At the urgent request of the family attempts to effect a movement by injections were continued.

August 23d: The general condition is about the same; no fever. Pulse ranges from 80 to 100. There has been more pain in the last two or three days, requiring three or four suppositories per day to overcome it. The diet has been fluid in character, with two or three enemata of "liquid peptonoids" daily. Vomiting only once. Wind has been passed freely, but no sort of injection has produced a movement. A long tube has been twice passed, and two pints of warm water injected. A shorter flexible tube (eight inches) has been introduced every day. Olive oil, glycerine and water, and soap-suds have been injected in various quantities and held for some hours, but in vain. The greatest amount of fecal matter has been passed in the intervals of the enemata—voluntarily, or after the peptonoids had been introduced. This has never been more in quantity than half a tablespoonful. It seems evident that fluids pass through the seat of obstruction, and that small amounts of fæces get through at intervals and accumulate in the rectum. Urine is acid, contains no albumen; specific gravity equals 1.014.

August 24th: Laparotomy was performed with the advice and assistance of Dr. Douglas Morton, of Louisville, Ky., Dr. B. Farquhar Curtis, and Dr. H. C. Coes. After opening the abdominal cavity by a median incision four inches in length, the hand encountered at once the distended sigmoid flexure, which reached well over to the median line, and was as large as one's wrist. Its walls were more rigid and more parchment-like than normal, its serous coat congested, and it was partly concealed by coils of small intestine of normal appearance. On tracing the flexure toward the pelvic cavity a narrow annular constriction was met with close to the beginning of the rectum. The diameter of the gut here was not greater than one inch, the width of the ring of constriction being about one-fourth of an inch. In the mesocolon adjoining was an area of infiltration one-half by three inches. This could not be seen, although the stricture was brought into view by wedging the small intestine out of the way with sponges. There was a small quantity of clear serum in the pelvic cavity. Twenty minutes were spent in getting this information from the time the administration of ether was begun.

It was not possible to resect the strictured part of the gut with its mesocolon, for it could not be brought up to the level of the abdominal wound. I should not, however, have ventured on so hazardous and unpromising an operation in so old a subject. The choice of procedures lay between an artificial anus in the median line and a left lumbar colotomy. The former seemed to me the wiser, as it offered a relief to the obstruction at once, without complicating or prolonging the operation materially. The lower three-fourths of the incision were closed by silk sutures (through all the layers). In its upper fourth the the peritoneum was sewed to the skin with a continuous catgut suture, and the wall of the distended gut, at a point about four inches above the stricture, sewed to the peritoneum in the same way. The gut was not opened. The duration of the operation was forty-five minutes, and the patient was placed in bed in good general condition. At the end of twenty-four hours the temperature was 100°, pulse 120, and there was pain and vomiting. These symptoms ceased after incision of the wall of the colon, thirty hours after operation. A copious evacuation of soft fæces occurred, nourishment was retained, and recovery was rapid. At the end of four weeks Mrs. J—— traveled to Louisville without discomfort. She is reported to me as being in pretty good health, able to make a journey to Florida, though there are signs of the growth in the vicinity of the artificial anus. She and her family have been opposed to a secondary operation.

The experience of these two last cases has demonstrated to me that the location of the artificial anus in the median line is more convenient for the patient than in either lumbar or inguinal region. And it has the further advantage of being a simpler procedure, and one requiring less time and involving less hemorrhage than the making an opening in the other localities.

CASE. V. *Obstruction from cancer of rectum; laparotomy; death.* —Mr. L——, a lawyer, aged thirty-seven, was first seen by Dr. C. H. Knight in the latter part of November, 1887. He had for several years had occasional attacks of diarrhœa, with pain, and in the last year there has often been severe pain at stool. The passages have been always loose, without blood or mucus, and in the past six months he has lost much flesh. The examination of the abdomen and rectum was negative. Two weeks before I saw him he had severe abdominal pain, with vomiting, tympanites, and sharp paristalsis. Enemata brought away small amount of fecal matter during the first three or four days, the vomiting ceased, the pain moderated. Pulse was 100; temperate, 100°; and there was no abdominal tenderness. But the distension increased, no flatus was passed, and enemata failed to produce any fæces. A small rubber bougie would pass only five inches into the rectum, and it was observed that the quantity of water which the patient could retain rarely exceeded six or eight ounces. Urination normal, but quantity diminished.

December 24, 1887, in consultation with Dr. G. L. Peabody and Dr. Knight, laparotomy was advised, and the operation performed immediately with their help and that of Dr. G. B. Phelps. The tympanitic distention of the abdomen was extreme, but in other respects the condition was good. On pushing the finger vigorously into the rectum its tip seemed to encounter a hard mass, but the sensation was very indefinite. Still, we felt sure that the exploration would discover a stricture of the sigmoid flexure or rectum from the history of the case. At 10 P. M., after opening the abdomen under ether, it was with much difficulty that the swollen small intestine could be displaced sufficiently to permit digital exploration of the pelvis. Seeing was impossible. But in the upper part of the rectum a hard, flattened mass was detected, which could be caught between one finger inside and another pushed far up the rectum. The sigmoid flexure would not reach to the median line, and consequently it was affixed to the abdominal wall (peritoneum to peritoneum) on the left side of the rectus muscle, by an incision parallel to Poupart's ligament and two inches above it. The bowel was not opened, but the wall had been torn at one point by the teeth of forceps, which permitted the escape of some gas. More escaped during the night, but there was no visible lessening of the distention. Fæces were passed freely during the day of December 25th, but the pulse became very rapid, the surface cool, the temperature did not rise, and death followed eighteen hours after the operation.

At the autopsy, Dr. Peabody found evidences of commencing peritonitis, but no fecal matter in the cavity, though the gut was not closely adherent to the parietal peritoneum. The omentum was turned up on the stomach, and contained carcinomatus nodules, and the mesenteric glands were likewise affected. Six and a half inches from the anus there was a cancerous deposit in the wall of the rectum, causing it to adhere to the posterior surface of the bladder. This was annular in form, one inch long, three-quarters of an inch thick, and the lumen of the bowel was diminished to the size of a lead-pencil.

In this instance, examination with the finger in the rectum gave vague indications of the presence of a stricture. The introduction of the whole hand would have made the situation clear, and inguinal or lumbar colotomy would have been the proper procedure. I omitted this examination, because there was not present anyone with a hand the dimensions of which would have made the exploration safe. With the fingers extended and folded together, a safe hand should not exceed eight inches in circumference. The evidence furnished by exploration with bougie and by the quantity of water retained is justly regarded in general as fallacious; but in this case it was undoubtedly correct.

It will be seen, from the histories of these cases, that I have operated as early as consent could be gained, and with a good measure of success. But in all of them still earlier interference would have been better surgery and more advantageous to the patient. It is difficult to adhere to a rule that an operation should be done at a given time from the onset of an attack. Either the danger is not appreciated by the physician in attendance, or the friends object, or some variation in the symptoms leads to the hope that medical measures may suffice. Much valuable time is lost in efforts at refinement in diagnosis, such as the location of the seat of obstruction and the determination of its nature. I do not mean to speak lightly of the information we possess, which will sometime enable us to arrive at valuable conclusions in those respects, but I think the deciding the main question—Does intestinal obstruction exist?—is more important. This conclusion once reached, medical measures may be resorted to. If they fail to relieve at the end of from twenty-four to forty-eight hours, the operation should be performed. In this I refer, as a matter of course, to acute obstructions. In chronic cases, like the last two narrated, it is proper to delay longer. The persistence of pain which requires morphine for its relief, the continuance of vomiting, the failure to provoke a movement by several rectal enemata, aided by mild aperients—these symptoms, with or without commencing tympanites and without fever—should invite the attention of the surgeon, and demand operative interference, unless promptly relieved. The operation decided upon, an incision, large enough to admit the hand, should be made, the presenting intestine pushed away to permit inspection of the rectum, cæcum, and sigmoid flexure. Then bands may be felt for, or empty loops of intestine, and this failing to discover the lesion, the gut may be searched, while still inside the belly, for congested or distended portions. This can be done rapidly, if the edges of the abdominal wound be strongly retracted. Removal of the small intestine from the cavity or "eventration," which has been advocated by Kümmell, seems to me a very serious step. It has, in the instances where I have done it for gunshot wound, invariably produced great shock. It might seem proper if the intestine were *not* heavy from congestion and enlarged by distention; but when such a condition exists, I think enterotomy would be preferable to "eventration," or to the emptying of the gut by incision, as proposed by Greig Smith.

I would like to add to these cases notes of five others which I have seen with Dr. F. P. Kinnicutt, Dr. J. B. Hunter, Dr. J. D. Anway, Dr. W. H. Farrington, and Dr. G. T. Harrison, but it is impossible, since I saw the patients but once. But in all of them the symptoms, pronounced at the outset, disappeared within seventy-two hours under medical treatment. In all, then, I have met with ten cases of intestinal obstruction, five of which have recovered within three days. The other five have been operated on, with two deaths.

ORIGINAL TRANSLATIONS.

ANTISEPTIC TREATMENT OF INFANTILE DIARRHŒA. By Dr. P. Le Gendre, *Union Médicale.* Translated for GAILLARD'S MEDICAL JOURNAL by H. McS. GAMBLE, M. D., Orlando, Fla.

When an infant comes into the world its digestive canal contains no microbes. Escherich found none either in the meconium or in the fecal matters of new-born children. Microbes begin to show themselves therein between six and twenty-four hours after birth. These are at first those of the ambient atmosphere that the inspired air deposits in the mouth, and that deglutition carries into the œsophagus; then follow those introduced by alimentation, when the child does not take the breast; whether the milk in the nursing bottle has been diluted with water or is pure, but not boiled.

In every case, after a few days, we find in the digestive canal of the child a whole world of micro-organisms, yeast, champignons, leptothrix, bacilli, and bacteria. We do not for a moment believe that all these microbes are pathogenic. Some of them are useful, and M. Vignal has just proved that they take part in the physiological work of digestion. Since we are considering here the digestive canal of the child, we will speak only of the action of certain microbes upon milk. Vignal has isolated among the hosts of the digestive canal some species that coagulate milk, manufacture at their own expense leucine, tyrosine, the fatty acids, dissolve caseine, and transform lactose into lactic acid. This work of reduction and of metamorphoses is, perhaps, accomplished in the same way in the digestive canal of adults by the action of microbes. But in the case of the child during lactation the action of the latter is not necessary, for its stomach contains everything needful for the digestion of milk without microbes, that is to say, a rennet and a diastase secreted by the cells themselves.

The other microbes of the digestive canal are for the most part indifferent, that is to say, not pathogenic, at least under normal conditions. They cause the alimentary matter to ferment, and create at their own expense a host of chemical substances, of which the greater part are toxic in sufficient dose, but which are habitually produced in quantity insufficient to cause poisoning, thanks to the incessant work of the emunctories; acetic, butyric, valerianic and oxalic acids, sulphuretted and carburetted hydrogen, ammonia, trimethylamine, leucine, tyrosine, indol, phenol, crisol, skatol, and above all alkaloids and ptomaïnes are the chief products of the life of the microbes.

When the microbes are not too numerous, when the putrescible matter is not supplied them in excessive quantity, the protective organs of the organism (liver, kidneys, etc.) have time either to store them up in order to destroy them ulteriorly, or to eliminate the toxic products resorbed in the intestine. But, if certain conditions (moist heat, different chemical reactions) transform the contents of the stomach and intestine into a medium of culture particularly favorable to the multiplication of microbes; if putrescible matter is supplied to the latter in large quantity, the toxic products mentioned above go on increasing in proportions so considerable that the organism becomes unable to rid itself of them with sufficient rapidity. Symptoms of intoxication manifest themselves.

Among the chemical substances manufactured by the microbes of the digestive canal, two categories appear particularly to play a rôle in the diarrhœas of children—acids and the alkaloidal poisons. Acids may provoke diarrhœa by directly irritating the intestinal mucous membrane. The simplest, the least violent cases of diarrhœa may owe their origin to them. But those that are remarkable for their sudden violence and their rapid gravity seem to assume the character of poisoning by the alkaloids.

Among the alkaloids to which putrefaction gives birth, and of which the characteristics have been studied by Brieger and A. Gautier, there are some whose physiological action is not great; but others are violent poisons. There are some that determine in animal salivation, vomiting, diarrhœa, dyspnœa, paralysis and death. Others bring on in a few minutes a hypersecretion of the conjunctival, nasal, buccal, and intestinal mucous membranes, then dilatation of the pupils, exophthalmia, elevation of the temperature, paralysis, fibrillary twitching of the muscles, dyspnœa and death, diarrhœa being the predominant symptom.

Others cause only an excessive peristaltic action of the digestive canal and an exhausting diarrhœa. In a general way it may be said that the greater part of the alkaloids obtained by the decomposition of albumen have a tendency to produce diarrhœa. But the albuminoid matters capable of undergoing putrefaction, and consequently of engendering these ptomaïnes, exist in the digestive canal of children. In the front rank comes milk, and too often other kinds of azotized aliments when the children are fed in a defective manner. In many cases, besides the aliments, there is mucus, serous exudation from the inflamed mucous membranes, blood even or pus, or sloughs.

What we know of the physiological action of certain ptomaïnes undoubtedly throws light upon the pathogeny of the symptoms that accompany the diarrhœas of children. There are some cases of infantile cholera in which violent symptoms are followed promptly by death, and in which, however, the results of an autopsy do not explain this lightning-like progress. There are also cases of diarrhœa, some acute, others subacute, in which a few hours before death, is observed an elevation of temperature with the condition called hydrencephaloid. The nervous symptoms may be referred to the exhaustion. But it is difficult to explain the hyperthermic state either by the exhaustion, or by an inflammatory process arising such a short time before death. Does it not seem more reasonable to believe that, in these cases, a sort of septicæmia has been the result of the intoxication caused by the products of putrefaction, either resorbed in the digestive canal, or formed in the exhausted tissues of the body? Ptomaïnes may even be developed in milk outside of the organism.

Symptoms of poisoning are described from time to time arising from the ingestion of spoiled cheese and of sour milk. Vaughan, an American physician and chemist, has discovered the noxious agent which is developed in these aliments, and which he has called *tyrotoxicon.* It is a poison of the class of the ptomaïnes, which presents itself under the form of long crystalline needles, soluble in water, ether, chloroform, and alcohol, and which is produced by the action of a large quantity of butyric acid, developed by a slight putrefaction or an excessive fermentation, upon the caseine of cheese. Volatile at the temperature of boiling water, this poison has a strong, penetrating odor, but which is masked in the cheese by the peculiar odor of this article of food.

An example of the symptoms that the presence of this ptomaïne in milk is capable of producing has been given by William Newton and Shippen Wallace (*Med. News*, 25th Sept., 1886). One evening twenty-four guests of a hotel at Long Branch were seized, a few hours after eating, with signs of poisoning (nausea, vomiting, cramps, collapse, a little diarrhœa); in another hotel, the same evening, nineteen persons suffered with similar symptoms. All recovered in a few hours. A week later, thirty persons, in a third hotel, were poisoned simultaneously, without fatal issue. Investigation, directed with great care, proved that these intoxications were caused by the use of milk which had not been adulterated with any substance and had been furnished by healthy cows, but which had been sent as soon as drawn, and before cooling, a distance of eight miles, in the month of August and during a most intense heat. In this milk, after being subjected to an excessive fermentation, had been developed the ptomaïne discovered by Vaughan; they succeeded in isolating the crystals of tyrotoxicon which, administered in milk in small quantity to a cat, produced in it signs of poisoning similar to those which the consumers of the spoiled milk had presented.

One readily understands how young children may suffer from very grave disorders in consequence of the presence of the ptomaïne of spoiled milk.

To the opinion that assimilates choleriform diarrhœa to the disorders that follow the administration of certain ptomaïnes to animals, it will be objected, perhaps, that the symptoms are not always identical on either side.

But it must be remembered that there cannot exist in the digestive canal of children a single species of ptomaïne, since the intestine contains at the same time several varieties of albuminoid substances and several species of microbes. Moreover, different ptomaïnes, whilst having a common effect, such as diarrhœa, may possess other antagonistic properties, so that the effect of one may be modified or neutralized by another. Besides, it is impossible to foresee exactly, from experiments made outside of the human body, what will be the action of the alkaloids of putrefaction when they are formed within it.

To sum up, we may conclude, with Dr. S. Allen Potter (*New York*

Med. Record, July, 1887), author of an interesting work upon the summer diarrhœa of children, from which we have freely borrowed, that the micro-organisms play an important pathogenic rôle in a large number of cases; that antisepsy of the digestive canal is an essential element in the treatment; that antisepsy does not consist solely in the use of medicines, but exacts the realization of all the conditions known to be unfavorable to the life and activity of the micro-organism; but that, in order to carry out the antisepsy with certainty, it would be necessary to obtain more information than we now possess in regard to the nature of the pathogenic organisms, their biology, and the conditions favorable or unfavorable to their development.

The antiseptic treatment of the diarrhœa of children is complex. It is not confined to the administration of antiseptic remedies. We ought to include therein many precautions recommended at all times by physicians, but the utility of which is explained only by the septic theory of the diarrhœa.

In changing a child from the bottle to the breast we take one antiseptic step. The milk that comes from the mammary gland is free from microbes, and human milk, even when left exposed to the air, resists, according to Baginsky, the act of fermentation for a longer time than cow's milk.

To have the milk heated or boiled is antisepsy. The ancients were accustomed to extinguish in the milk, pebbles heated red-hot in the fire in order to render it more suitable for the treament of diarrhœa. Domestic observation has taught the necessity of boiling milk in order to preseve it. The more exact studies of the laboratory have shown that by carrying it for a few minutes to the temperature of boiling water, the bacteria which it contains are killed and that by maintaining it at the same temperature for fifteen to thirty minutes even the spores are destroyed. A liquid capable of undergoing fermentation, thus sterilized, will remain intact until new bacteria are introduced into it.

To completely sterilize the milk is seldom compatible with the conditions of nursing. We approximate to the conditions of the laboratory by having the milk boiled in the same bottle that is to serve as the nursing flask of the child. The bottle ought to be stopped with a tampon of cotton previously sterilized, and the stopper ought to be removed only when the milk is needed.

All measures that have for their object to diminish the quantity of putrescible matter supplied as food to the microbes of the digestive canal, whether we allow a smaller quantity of aliment to be ingested, or prescribe evacuants, are in the line of antisepsy. In the first case, the micro-organisms are deprived of the materials necessary to their multiplication; in the second, the microbes and their products are expelled.

To evacute the contents of the intestines so far as they are composed of undigested alimentary matters in which the microbes pullulate, then to combat the fermentation of the new aliments that are introduced into it, to meet the symptoms produced by the poisons that the microbes have secreted, such are the indications to be fulfilled in the more or less choleriform diarrhœas.

The success of *calomel* as an evacuant at the commencement of the symptoms belongs as much perhaps to its antiseptic properties as to its purgative action. The majority of American physicians who have recently published treatises upon infantile cholera make use of it; Jacobi gives 0.05 to 0.30 centigrammes of it; Emmet, 0.05 to 0.10; A. Caillé recommends powders of 0.02 centigrammes placed hourly upon the tongue of the child for five hours.

Resorcin is used in the dose of 0.20 to 0.50 centigrammes in suspension in a glycerine potion, or in powder, mixed with bismuth, carbonate of lime, Dover powder (Jacobi); in the form of a potion resorcine 0.10 centigrammes: cinnamon water, 60 grammes; tincture of opium two drops (Caillé).

Salicylate of soda, 0.05 to 0.10 centigrammes, or *naphthaline*, 0.10 to 0.20 centigrammes every two hours (Emmet Holt). The *benzoate of soda*, 4 grammes; water 60 grammes; syrup, 10 grammes (Caillé).

Chlorhydric acid, after the following formulæ: acid chlorhydric, 10 drops; water, 60 grammes; pure pepsin, 2 grammes; syrup, 10 grammes—or acid chlorhydric, 2 grammes; water, 60 grammes; tincture of opium, 2 drops; simple syrup, 10 grammes (Caillé).

This same physician employs a potion containing two to six drops of *phenic acid* in mucilage, 60 grammes—or *nitrate of silver*, 0.40 centigrammes; distilled water, 60 grammes.

Jacobi employes another formula; nitrate of silver, 0.001 to 0.002 milligrammes; distilled water, 10 grammes every two hours. He has also made use of creasote water. When the vomiting predominates over the diarrhœa, which is quite frequently the case in infantile diarrhœa, he advises giving every hour 15 drops of the following potion: tincture of iodine, 15 drops; mint-water, 30 grammes.

Thymol has been employed for some time in certain forms of diarrhœa. V. Martine (of Sienne) considers it, in view of its feeble solubility, as very useful for intestinal antisepsy; it may be given in tolerably large doses without fear of toxic effects and, traversing without being dissolved, the greater part of the intestinal canal, it exercises its antiseptic action all along its passage. A single time in a very debilitated child, to whom very large doses have been given, there was observed a little delirium and a soporous condition.

But perhaps, to all the antiseptics previously mentioned, we ought to prefer *naphtol* β, upon which M. Bouchard has for two years been pursuing such patient researches. The equivalent of toxicity of naphtol is one gramme, 60 to the kilogramme of weight of the body. It is slightly soluble in water by prolonged agitation (0 grammes, 33 per 1000). In this dose it employs a manifest antiseptic power. Its use diminishes in a general way the number of microbes contained in the digestive canal, as microscopical examination shows. But, in addition, experiments, undertaken to discover its antiseptic power against certain determined microbes, have given the following results: In the quantity of 33 centigrammes to the litre of broth, naphtol prevents the germination of the microbes of glanders, of gangrenous mammites of the sheep, of chicken cholera, of bacterial charbon, of the pneumococcus and of the white and golden staphylococcus. The microbes of the pyrocyonic disease, of typhoid fever, of the rough of hogs, upon which the experiment had been tried have continued to develop themselves.

Abundant injections of alcoholized or salicylated warm water also meet an indication for antisepsy. To fulfill the indication to combat the nervous troubles caused by auto-intoxication, if there is collapse, complicated or not with convulsions, one will prescribe cognac—musk, 0.05 to 0.10 centigrammes every fifteen to thirty minutes in mucilage until 0.30 to 0.60 centigrammes have been given (Jacobi);—camphor, 0.01 (mixed with sugar, 0.30 centigrammes), a dose every three hours, or camphor, 0.01 centigrammes; Dover powder, 0.005 milligrammes in one dose every two hours, or camphor, 0.05 centigrammes; bismuth, 0.30 centigrammes; hypodermic injections of ether and of caffeine (Caillé).

The green diarrhœa of nursing children, in which MM. Damaschino and Clado had already shown the existence of micro-organisms, has just been studied anew and more thoroughly by MM. Hagem and Lesage in a recent communication to the Academy of Medicine.

The therapeutic results obtained from lactic acid, in this instance, belong to the province of antisepsy, since they rest upon the impossibility of the pathogenic microbe living in an acid medium.

M. Hagem had attempted to combat the gastro-intestinal disorders of children of tender age, and particularly green diarrhœa, by the means ordinarily used: regulation of the periods for nursing and of alimentation, alkalines, absorbent powders; none of these measures succeeded, and he recognized the fact that chlorhydric acid, whilst giving the best results, was still an unreliable remedy.

Having observed that the matters vomited and the stools were generally neutral or slightly alkaline, he conceived the idea of prescribing lactic acid which rendered the greatest service in the form of a 2 per cent. solution in the dose of a coffeespoonful, a quarter of an hour after taking the breast (five to eight coffeespoonfuls in twenty-four hours, that is 40 to 60 centigrammes of pure lactic acid). The vomiting, if it exists, ceases very rapidly; the stools diminish at the same time that their green color becomes yellowish. Then they become normal, as to the number and character.

These results are maintained only upon condition of rigorously carrying out of the ward in which the patients are treated all the linen soiled by the vomited matters and especially by the stools, and of plunging them into a solution of corrosive sublimate. M. Hagem's interne, M. Lesage, has, in effect, recognized in the green matter the presence of a particular bacillus, which he has succeeded in isolating and cultivating, and which produces the green matter by a sort of excretion. He has, besides, remarked that the lactic acid, even in feeble doses, caused the cultures of this bacillus to abort when made upon peptonized gelatine. These researches appear to explain the contagiousness of the disease; but it does not follow that it can be created simply by the introduction of the bacillus into the digestive canal.

Chlorhydric acid seems to possess a certain efficacy. All the acids, moreover, outside of the organism, certainly are injurious to the development of the bacillus. Besides the acids, we find a large number of disinfectants, among which naphthaline, iodoform, black sulphuret of mercury and calomel appear to merit being tested.

To sum up, the diarrhœa of nursing children owes in certain cases its green color to a matter produced by a particular bacillus.

It is probably prepared by a dyspeptic state that allows this bacillus to find in the digestive canal the medium that suits it. M. Hagem believes himself also authorized to say that it is contagious, and that the germs deposited upon the linen soiled by the dejections are the agents of contamination.

Some months ago, M. Sevistre called attention to certain broncho-pneumonias arising in the course of infantile putrid diarrhœa and which he had observed quite frequently at the Hospice des Enfants-Assistes. He has rightly, it seems to us, attributed the broncho-pulmonary troubles to the auto-intoxication resulting from the resorption of ptomaïnes in the intestine. Being guided by this pathogenic interpretation, he has employed antiseptics in the treatment; naphthaline and calomel especially have given him better results than opiates and bismuth.

Finally, there are in the present state of our knowledge upon the pathogenic rôle of the micro-organisms and ptomaïnes in many infantile diarrhœas, very sufficient reasons for authorizing the use of antiseptic remedies in preference to the other classical measures.

SELECTIONS

PASTEUR'S ANTI-HYDROPHOBIC INOCULATIONS. A criticism on the Report of the English Commission on the Pasteur Method, by TH. M. DOLAN, M.D., F.R.C.S.

The report of a commission, constituted as the English Hydrophobia Commission was, cannot fail to command the attention of the profession. It seemed to unite all those elements required to give security that the work be honestly and thoroughly done. The erudition of Sir James Paget, the conscientious accuracy of Lauder Brunton, the ripe experience of Sir Joseph Lister, the chemical skill of Sir W. Roscoe, were brought to the assistance of the two men who, we presume, were more immediately concerned with the experimental part of the research, and whose past work certainly qualified them to undertake the laborious investigations necessary to the full elucidation of the problem opened out by Pasteur.' In Victor Horsley and Mr. Fleming the Commission had two men of the first rank, the former bringing to bear skill in modern scientific expert methods, the latter the ripe experience on rabies, which has made for him a world-wide reputation as an authority on this fatal malady. We have waited with some expectation for this report, and we are enabled to congratulate the Commission, constituted as it was, on the manner in which they have done their work. It is just such a report as we anticipated they would publish. There were certain personal difficulties in the way of the investigations, against which the committee tried to guard themselves, not very successfully freeing themselves from this personal equation. Pasteur's great name of itself carried weight with them; his previous researches commanded almost faith. The committee have evidently labored under this hero-worship. Hence the report lacks the thorough analytical character which would have been given were the committee dealing with a less-known man. The gods do not blame the gods; it is for the mortals to criticise and pick holes in the garb of the celestials. Irreverence and want of respect for medical authority are failings to which we confess we are liable, so that, as we have treated M. Pasteur with freedom, we shall not be expected to have much more respect for the annotators: finding fault where fault can be legitimately found with their reasoning, and giving credit where credit is due. Pasteur's work divides itself into two parts, which have to be considered separately:

1. The first question is purely experimental. Can dogs be rendered insusceptible against rabies by preventive inoculation? As a laboratory experiment, Pasteur has succeeded in making a certain number of dogs insusceptible. We believe this is beyond dispute. This laboratory experiment has no practical value, so far as being generally applicable, as it would not hold good for all dogs, and even if it did, there are certain other difficulties to be overcome before it could be put into general practice, so that we may then fairly say it has no practical value. It had, however, an experimental value; it induced Pasteur to try preventive inoculation for human beings. The Hydrophobia Commission first devoted itself to the experimental part, and have proved by experiment that M. Pasteur does produce rabies artificially, and the experimenter further succeeded in making a certain number of animals immune against rabies; that is to say, the animals so injected do not die after exposure to rabies, though certain other animals not protected succumbed. So far the Commission have sailed on plain ground. They differ from some continental observers in the results of their experiments, but experiments will differ, as we know but too well. Mr. Horsley's experiments were not very numerous, and certainly will not satisfy continental experimenters like Frisch, Abreu, De Renzi, Amoroso, etc. He experimented on *six dogs*, which he rendered immune. The six dogs were treated *à la Pasteur*, and then *two* dogs and some unprotected rabbits were bitten by dogs or cats that

were rabid; the unprotected animals died, the six dogs survived. Mr. Horsley would appear to be solely responsible for the experiments, Mr. Fleming, no doubt, satisfying himself as to the existence of rabies; the other members of the committee in this part of the inquiry were necessarily guided by their experimentalist. Hence, though this report is indorsed by the Commissioners, we may take it that this is Mr. Horsley's work.

2. Now the second part relates to a question which comes within the region of logic, and to which we can apply the ordinary rules of evidence. The second part of this problem does not follow as a corollary from the first proposition; it has in reality no relation to it. Because in a certain number of cases M. Pasteur rendered a certain number of dogs immune to artificially induced rabies, it does not follow that he could, after a bite, give similar protection to human beings. If M. Pasteur treated a certain number of human beings in the same manner as he treated his dogs, and then allowed them to be bitten, the experiments would be on a par. *A priori* reasoning from one class to another class of experiments is not logical. Pasteur's success with one class of experiments, however, entitled him to a hearing with another class. The second part of the question, though in the domain of logic, and though depending for its solution on the interpretation of statistics, is yet not so easy to solve, the evidence is so frequently negative, the data varying. Briefly speaking, some 3,000 have gone to Pasteur and been inoculated, these people having been bitten or licked by dogs. Pasteur's school claimed that almost all these people had been saved from death from hydrophobia; *a reductio ad absurdum.* Roughly, the percentage of those who did not develop hydrophobia after the inoculation is small, and, looked at by percentages, the results are most striking. Here is the weak part in the chain of evidence. The committee themselves have pierced a very formidable hole in the method; in fact, they have dealt a blow at the system, perhaps the most severe that has yet been struck. Various percentages have been fixed on the proportion of rabies to bites. In a certain group the mortality is high, in another group it is low. Averages have been fixed on, actually varying from 5 to 60 per cent., which shows that there are no scientific data as yet on the subject, and all is to a certain degree arbitrary. The committee have taken the lowest estimate, 5 per cent. for dog bites, and 30 per cent. for wolf bites, a percentage which will hardly please the Pasteurians. Here we may dwell on a series of observations which fully bear out all we have said in reference to the hydrophobia scare, and to the unreliability of the evidence that the persons who went to Pasteur were ever in danger of contracting hydrophobia. We require no further evidence on this question to convince our readers that our attitude has been perfectly justifiable. Mr. Burdon Sanderson, Dr. Lauder Brunton, and Mr. Horsley went to Paris, and personally investigated the history of 90 patients whose names appeared on Pasteur's list; they are average cases. Now let us mark the result. In 31 cases there was no reliable evidence that

the dogs inflicting the bites were rabid; in the others the bites were inflicted through the clothes; 24 were bitten on exposed parts by dogs rabid. We may dismiss the 31 bitten by non-rabid dogs and those bitten through the clothes; the 24 cases are of interest. Here the committee make a calculation which requires explanation. Taking the 90, the committee say 8 would have died had it not been for the inoculations. As they have already fixed a 5 per cent. mortality, we cannot see the justification for raising it; and as the 24 were only exposed, taking a mortality of 8 persons for the 24 gives a mortality of something like 32 per cent. The 66 other patients out of the 90 were treated just as the 24 patients. They were injected, and it is a matter of congratulation that they were none the worse for the treatment. Here we have a part of the problem upon which light is needed. If the Pasteur virus was efficacious in eating up the pabulum in the case of the 24, who, according to the committee, were exposed to the danger of contracting hydrophobia, what was its effect on those who really did not require the injections? This of course opens out the whole question. What is the nature of the rabid virus, and what is the nature of the antidote? It is not too much to say that we know nothing of either, and that the system rests on an empirical basis. The dosage is not even fixed. M. Pasteur is groping in the dark; he has changed his methods, the surest proof of the imperfection of his processes. The aggregate cases treated by Pasteur up to the date of the committee's inquiry were 2,634 persons. The committee form a very different estimate, indeed, from that shared by the late Dr. Vulpian (and they will probably cause some consternation amongst the ultra admirers of the method) as to the actual results in this number of cases. They give M. Pasteur credit for only saving 100 lives. This is, of course, something to be proud of, but it is very small, indeed, compared with the number claimed by some of M. Pasteur's countrymen.

"The committee, as scientific men, have not taken much notice of M. Pasteur's changing statements, or of the alteration in his methods. Poets are allowed poetic license, and M. Pasteur being, as it were, a kind of scientific poet, is accorded the same privilege. In estimating the mortality, and taking the figures at 100, the committee are obliged to ignore, or to interpret in another way, the actual mortality in France previous to the introduction of this method. We have it on evidence that the annual mortality in France from hydrophobia has been *thirty per annum*. The figures supporting this are admitted. To account for the saving of life and for the increased number of deaths there ought to be, if Pasteur is correct, an average mortality in France which will approach 100. An assumption is thrown out that the annual mortality in France is a great deal more than that record—physicians, owing to the fear of hydrophobia, recording the deaths from that disease under a false name. This is not only an assumption, but almost a libel on the profession; it is not supported by a tittle of evidence. If such an assumption be allowed, a contra one may also be allowed, to the effect that the death-rate in France is now too high, even at the

30 figure. Owing to ignorance as to what hydrophobia really is, cases of death are certified as being due to it which ought really to be classed under a very different nomenclature. The disorders mistaken for hydrophobia, as pointed out by ourselves and Dulles, of Philadelphia, are very numerous, and there are too many cases on record to prove this. We give an example: Mr. W. Robinson, Superintendent of Statistics for Scotland, reported to us that during the years 1855 and 1874, inclusive, there were registered under the heading of hydrophobia the following cases, which, after full investigation, were placed under their true headings: A case of malignant pustule in 1885; five cases of snake-bite in various years; in 1860 three deaths from glanders; in 1862 one death from glanders; in 1871 three deaths from glanders and one from farcy. Here is evidence to show that mistakes of this kind do occur. Unless checked, the mortality from hydrophobia in Scotland would have looked much higher. Hypotheses and suggestions are double-edged weapons. Unfortunately, there is but too much hypothesis in connection with the second part of the report, and hence even the low estimate has very little scientific value. If M. Pasteur's work is to be simply judged by his own estimations and by statements made by him to explain the discrepancy between the actual death-rate and this hypothetical death-rate, then the value of this report is lessened.

"We put this question in another form: If we have a 5 per cent. mortality—assuming that M. Pasteur has had 2,000 French subjects under his treatment—M. Pasteur would have saved 100 lives; if 10 per cent., 200; if 20 per cent., 400; if 40 per cent., 500; and so on up to the highest, 60 per cent. To balance these figures we would require a varying French mortality; in other words, the facts would have to fit the figures expressed in percentages. Unfortunately, the mortality in France antecedent to the introduction of the method will not fit the lowest estimate—even with 50 per cent. added.

"Lutand has pointed out that the death-rate has been higher since the introduction of the method, attributing the increase to M. Pasteur's intensive process. The committee, or rather we would say Mr. Horsley, because here we think we can trace his handwriting, show the personal equation we have alluded to. The unfortunate man Goffi died from what is known as dumb rabies after being inoculated by the intensive process. Yet in the face of the evidence, not only of the death of Goffi, but of the other patients who have succumbed, the committee try to whitewash M. Pasteur by throwing out the hypothesis that Goffi died from the virus of the cat. Still more, this is done even in the face of M. Pasteur's own recantation. Finding his intensive method yielding results which might be challenged, he has modified it; in place of using a cord one day old, he now uses one of five days. No deaths were caused by the first method, which appears by its effects to have produced no change upon the patients. The explanation of this has yet to be scientifically solved. Theories may easily be put forward to account for the seeming inocuity of the injections.

"The *British Medical Journal*, July 2d, very justly observes, referring to the assumption that Goffi died of the virus of the cat: 'This statement appears to go near to begging the whole question, for the matter in dispute is the behavior of the "intensive virus" in man, and a most important element is the duration of incubation. The unusual nature of the symptoms also requires explanation, for the suggestion that the cases hitherto described under the term "acute ascending paralysis," or "Landry's paralysis," are in many instances examples of the dumb or paralytic form of rabies in man, rests upon the single observations of Mr. Horsley, and ignores the fact that a large proportion of such cases recover.' This criticism is just, and it reveals to us that we really have to deal with Mr. Horsley, the report being *the voice* of the committee, it is true, but the interpretation being that of the secretary of the Commission. In the interests of science it is a matter of regret that the death of Wild at Rotherham was not cleared up.

"What concerns us most in this report is the conclusion, and it is certainly a little surprising. Though convinced of the efficacy of the Pasteur treatment, yet we are not to have a Pasteur Institute in England. Our dog-bitten patients will have still to go to France and incur all the expense of such a journey. We are to have 800 persons bitten by rabid dogs annually—170 in London—because we have an annual mortality of 40 per year. Surely there is something a little strange in this. Why should we not have the remedy at our own doors? We ask, why? The committee conclude by recommending what we have been impressing for the past twelve years—a more stringent regulation of dogs. Here we are in agreement. We said in our pamphlet, published in July, 1886:

"'*But something more is required than even a remedy for hydrophobia.* Even though Pasteur gave us a remedy against the bites of rabid dogs, yet we have something more to do—we have to extinguish the disease in the dog. *Combattre la rage, c'est prévenir l'hydrophobie.* Can rabies be extinguished in the dog?'

"We gave the evidence from the Hague, and insisted on the necessity of a new Dog Act:

"'At the International Congress, London, 1881, Dr. Van Cappelle (the Hague) read a very practical paper on the methods adopted in Holland to check rabies. I supported a resolution proposed by him to the effect that that Congress should declare it desirable that the governments of all civilized countries should agree as to the measures for the abolition of the rabies. In Holland a stringent Dog Act is in force. Dr. Van Cappelle furnished evidence as to the efficiency of this Act in limited rabies. I think a more stringent Dog Act is required in England; and I have drawn up an Act which, if applied, would certainly go far to keep dogs under better control, and secure for them better protection. I throw the responsibility on the owners of dogs. I said in 1879 that if an Act framed on the above lines were passed, both the human and canine species would be protected, for rabies in a few years would be almost stamped out. We should not then have periodic seasons of panic, nor should we hear of the destruction of so many dogs during the temporary excitement caused by the dread of hydrophobia.

"'If any further evidence on the value of prophylaxis is required, it is furnished by the later returns from Vienna of Dr. Frisch, who went to Paris to study Pasteur's method. He tells us the more severe the dog laws and regulations, the greater is the guarantee against hydrophobia. Bollinger has recently given us statistics on the value of stringent police regulations in Bavaria (*Mün. Med. Wochenschrift*, March, 1886), and all who are interested in the subject will find in Bollinger's paper interesting statistics confirmatory of the views of Dr. Van Cappelle and of my own.'

"Now this Commission has spoken, we may expect that some measures will be put in force, and that we shall have in due time a Dog Act which will effectually stamp out rabies."—*The Medical Register.*

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PROCEEDINGS OF SOCIETIES.

British Gynecological Society Meeting, Nov. 6, 1887.

Dr. Granville Bantock, President, in the Chair. Dr. J. A. Mansell-Moulin, Secretary.

"The Nature of the Hymen" was the subject of remarks by Mr. Bland Sutton. He pointed out to his hearers that the hymen was formed in the same way as the rectum, that is, by the invagination of the epiblastic layer which comes into contact with and fuses with the primative gut in its posterior segment. The distinction between the two remains throughout life, for in the rectum a ridge of adenoid tissue marks the situation where the squamous epithelium of the anus join the columnar cells of the rectum. In the vagina the corresponding spot was indicated by the hymen or its remains. The mode by which the proctodoccum and the gut become fused is as follows: When the two cul-de-sacs come in contact and exercise pressure on each other the edges gradually cohere and join organically. At this stage the lumen is still obstructed with a thin septum. This gradually becomes thinner from pressure and ultimately perforation took place. The hole gradually increased and the septum slowly disappeared, until a complete channel was the result.

In the case of the anus it was clear that if the invagination failed to reach the gut, an imperforate rectum would be the result. From a study of these conditions it was clear that the hymen was merely a thin septum, resulting from the imperfect coalescence of proctodoccum with the uro-genital section of the cloaca. Should the septum be complete it would be termed an imperforate hymen. Occasionally the preparation was multiple, eccentric or cribiform.

Similar evidence as to the nature of the hymen was obtained from the opposite end of the alimentary canal. The mouth and pharynx, with the associated structures, were derived from an involution of the surface epiblast named the stomodicum. This met the blind anterior end of the foregut at a spot eventually corresponding with the cricoid cartilage. Should these parts fail to unite an imperforate pharynx was the result. When the coalescence was imperfect then a hymen like diaphragm might be found. So far as the alimentary canal was concerned, diaphragmata of their nature occasionally existed between the pharynx and the œsophagus in the duodenum immediately above the entrance of the bile duct, and in the rectum at the point of union of the anus and gut.

Thus, the formation of a diaphragm, sometimes complete but more commonly perforated, at the entrance of the vagina was only in agreement with what occured in other parts of the body, when two cul-de-sacs coalesced to form a continuous passage. Lastly, abnormalities of the vaginal orifice were not infrequently associated with defects of the alimentary canal. This might be expected, taking into consideration the embryological relation of the part with the cloaca.

"Enucleation by Electrolysis of a large Uterine Fibroid," was the subject reported upon by Dr. Holland. The patient, æt. 33, was the mother of seven children. She was admitted into the hospital for women, Soho Square, for a uterine hæmorrhage, which resisted all usual remedies. Uterus reached to the level of the umbilicus, and the sound passed to a depth of seven inches. There was no cervix available for a stump, and electrolysis was considered a legitimate procedure. The current was applied in the usual way on several occasions. The strength was gradually increased to 300 milliamperes. Necrosis of the tumor resulted. This, with the help of the écraseur, was successfully enucleated. On the second day after the operation the temperature rose to 104 degrees, but was quickly subdued by quinine and the intra-uterine douche. The patient made a satisfactory recovery, and the uterus was found to be reduced to its normal size. The reporter remarked that the tetanoid contraction into which the uterus was somewhat persistently thrown, the electrical excitement on each occasion, led him to anticipate necrosis and enucleation as possible and probable contingencies. He also calls attention to the diagnostic importance of galvanic current in tumors of uterine construction, as by this means such tumors are so hardened and defined as to at once isolate them from any other with which they could reasonably be confounded.

Dr. Imlach thought the Apostoli treatment was as full of promise as the electric belts so widely advertised. Dr. Holland had shown that it could do the only thing left unclaimed for it, viz., make uterine fibroid slough out. He thought it doubtful what influence electrolysis had to do with this case. It was possible that the fibroid was laying in the uterine cavity, and ready for extrusion at any moment, and that any irritant or cautery would have acted as well.

Dr. Mansell-Moulin thought the operator was much to be congratulated on the successful termination of his case. He could not help thinking that the element of good fortune had been present throughout. His patient had been fortunate in escaping the dangers of septicæmia, which every one knew was a very imminent one in the case of a sloughing fibroid. It was to be trusted that the operators reason for the cause of necrosis was the correct one. Thereby, supposing a strong uterine wall outside the tumor, it would be most undesirable, when employing the current, to establish necrosis in a tumor which was either subperitoneal or interstitial. Dr. Mansell-Moulin thought that in suitable cases of submucous fibroids the electric current would be found of much service in connection with the operation of enucleation. Its action was to hasten the process which Nature, in many instances, was already attempting to do. It forced the tumor downwards and through the cervix, thus dilating the passage and bringing the tumor within the reach of the operator. There was no evidence, as claimed by Apostoli, of a diminution in bulk from the effects of the electrolysis. In numerous instances, in which he had seen the treatment carried out with that view, failure had, without exception, resulted.

The president, Dr. Bantock, exhibited a tumor with a twisted pedicle.

Dr. Edis discussed the subject of the retained products of conception, and exhibited the placental portion of an ovum which he had removed from a patient three months after a miscarriage.

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NEW BOOKS AND PAMPHLETS.

ASEPTIC AND ANTISEPTIC SURGERY. A Practical Treatise for the Use of Students and the General Practitioner. By ARPAD G. GERSTER, M.D., Professor of Surgery at the New York Polyclinic, Visiting Surgeon to Mount Sinai Hospital and the German Hospital, N. Y. New York. D. Appleton & Co. 1888.

It was not with a small degree of interest that we undertook the review of this book. Among other factors in this feeling we may mention, first, our personal knowledge of the work of its author; and, secondly, the fact that the publishers of Bryant's "Manual of Operative Surgery," in our opinion one of the most concise and masterly books in its line, and of Wyeth's "Text-book on Surgery"—a book equalled by few of even the more extensive systems of surgery—that the same publishers, we repeat, had brought this book out. We were, therefore, almost assured before opening the book that it was well worth a careful reading; and this we have given it, preface, cases and all, not, as is so often done by reviewers, preface and nothing else—the task proving by no means unpleasant or uninstructive. Before taking up the arrangement and contents of the book, it is but fair to let the author speak for himself on those two points. Of the former he says: "The purely practical tendency of the work made a rather free arrangement of the several parts of the subject-matter a necessity, or at least a convenience. . . ."

Of the latter: "The author begs to state explicitly that completeness—that is, the inclusion of all the disciplines of surgery—was not aimed at, else a complete text-book of surgery would have resulted." And this brings us to the object of the volume, which, to quote again from its author, is "a systematic, yet practical presentation of the Listerian principle that has revolutionized surgery within the last fifteen years. . . ." "The leading idea, traceable through all the matter contained in the book, is to illustrate the incisive practical changes" (and he might have added *results*) "that the adoption of aseptic and antiseptic methods has wrought in surgical therapy."

Even in the very teeth of results unapproached and unattainable by the want of aseptic and antiseptic methods, there are surgeons in this enlightened city of New York, not to mention the thousands outside of its cultured circle, who still plod on in the dirty—we had almost written *criminal*—paths of prehistoric times. To such men this book should be sent by benevolent societies in order that they might, if possible, have forced upon their attention results which, in their wildest fancies, they never approached. To us, the value of the book lies largely in this fact: the man who is writing is not a visionary talker, but a practical worker, substantiating his statements by the record of *personal experience*. Again, there is comfort in the engravings reproduced from negatives by the photo-typographic process, giving us, as they do, not ideal bandages on still more fanciful limbs, but the actual dressings on human beings, and such dressings as are within the reach of our own efforts.

The time is ripe for a work which states clearly the details by which the wonderful results that the application of the Listerian principle has attained; and in this book we have such a work.

The book is divided into two parts: Asepsis and Antisepsis.

The author, not unwisely, limits the meaning of antisepsis to the destruction of septic processes which are already in progress.

"Aseptic Wounds," "Soiled Wounds," "Special Rules Regarding the Treatment of Accidental Wounds," and "Special Application of the Aseptic Method," are the subdivisions of Part I. Under "Aseptic Wounds," the "Rules for Surgical Cleanliness" are excellent—clear, to the point, practical. None the less so are, under "Special Application of the Aseptic Method," the "General Principles," which take up successively *technique* of surgical dissection, sutures, and drainage. Then follows, under this same heading, the "Application of Aseptic Method to Diverse Organs and Regions." We have already noted the satisfaction in having the author's statistics; but it is, we think, an undesirable fault of omission not to have embodied also the statistics of other aseptic surgeons. In so doing, it would have all the more clearly demonstrated the fact that success was due not to the magical skill of the operator—though be it far from us to underrate that skill—but to the rigid application of aseptic and antiseptic principles.

Part II. discusses Phlegmon. We are not prepared to say that the grounds for the differential diagnosis are always satisfactorily or sufficiently stated, though there are, unquestionably, valuable hints.

We would be inclined to say that the one chief fault underlying the first two parts of the work—and for which our citation from the preface shows that we were not unprepared—is the lack of any systematic method in the consideration of the several topics. It reminds us of the author of "Don Miff," who says in regard to his own book: "You can never tell what is coming next. Even to me it was a series of surprises."

Part III. considers tuberculosis. The remarks on the etiology of tuberculosis are terse and timely. The exsection of joints occupies nearly the whole of this third part, and in no part of the book has the author shown more ability in giving definite, brief and precise directions.

Parts IV. and V. take up, respectively, gonorrhœa and syphilis. As far as they go, they are suggestive and interesting, but entirely too brief—hence, unsatisfactory.

The use of words, questionable, to say the least, in the course of the work is not of frequent occurrence, but cannot be commended. In support of this statement we may cite asphyctic, irreponibility, (which if it exists at all is rare and obsolete), pulmonal, stercoral, etc. It sounds odd to say that "Arnott B. was amputated at the knee joint;" and that "Mrs. P. *contracted* a transverse fracture, etc. But these shortcomings neither vitiate nor materially detract from the real merits of the work. The publishers have certainly done their part faithfully, and we may add beautifully, the typography and paper and general workmanship being unsurpassed by anything of its kind. At a reasonable figure, we doubt not that the book will deservedly find itself in the hands of the large majority of the thinking, conscientious and progressive surgeons and physicians of the country.

We would be unjust to the author if we did not add, in conclusion, that the remarkable candor with which he reports *all* cases, whether successful or not, is well worthy of imitation, and deserves special commendation. As strange as it may appear (that is for an author to publish the fact) he had some deaths, some failures, some disappointments—most surgeons have only success to *report*.

CONTRIBUTIONS TO THE STUDY OF THE HEART AND LUNGS. By James R. Leaming, M.D., Emeritus Professor of Diseases of the Chest and Physical Diagnosis in the New York Polyclinic, and President of the Faculty, etc. New York: E. B. Treat, 177 Broadway.

The above is the title as we find it in the title-page of this the fifth volume of the series entitled, "Treat's Medical Classics," although the cover-title reads, "Diseases of the Chest." We make a point of this discrepancy, not for the sake of controversy, but to indorse the first-mentioned title as the more suitable one—giving, as it does, the true character of the book. Nearly the whole volume is made up of papers read before various societies, all of which are extremely interesting and highly instructive in themselves, though we do not think that from their very nature they can constitute a systematic treatise on the "Diseases of the Chest." Indeed, they are nothing more nor less than valuable "Contributions to the Study of the Heart and Lungs." The wonder is, that inasmuch as the author took so much trouble in recasting and re-arranging these papers, he did not write a systematic treatise on the subjects considered in them.

The papers are full of suggestions for careful thought, and, from the very fact that the author not seldom differs from the large majority of authorities, offer an interesting field for speculation and discussion. Pneumonia, Respiratory Murmurs, Plastic Exudation within the Pleura, Inter-pleural Pathological Processes, Hæmoptysis, Endemic Pleuro-Pneumonia, and Phthisis Pulmonalis are the titles of the papers pertaining to the respiratory organs, and constitute Part I. Cardiac Murmurs, Significance of Disturbed Action and Functional Murmurs of the Heart, and Diagnostic Areas upon the Chest constitute Part II., and Part III. is made up of three miscellaneous articles with the titles, Therapeutics of Chloride of Ammonium, Therapeusis of Thercury, and Thuja Occidentalis.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By John V. Shoemaker, A.M., M.D., Professor of Skin and Venereal Diseases in the Medico Chirurgical College and Hospital of Philadelphia, etc. With Colored Plates and other Illustrations. New York: D. Appleton & Co. 1888.

(Review in next issue.)

DIFFERENTIAL DIAGNOSIS OF DISEASES OF THE SKIN. By Condict W. Cutler, M.D., of New York City. G. P. Putnam's Sons, Publishers. 140 pages, 12mo. Price, $1.25.

There is given in this book a classified list of skin diseases, there following under each class an arrangement of the various diseases, against each of which is bracketed those diseases which present resemblances to it, and with which it is liable to be confounded. These are in turn taken up separately, and the diagnostic features severally contrasted. This list appears to be carefully prepared and is as exact, perhaps, as such tabulation of symptoms admits of, making a handbook which has its value.

A MANUAL OF ORGANIC MATERIA MEDICA. By John M. Maisch, Phar. D., Philadelphia: Lea Brothers & Co., 1887.

This hand-book of Dr. Maisch has reached its third edition and needs from us no new criticism. It, of course, contains descriptions of those remedies which are new, and also old ones revived within the last few years.

The third edition surpasses in its advantages and completeness its predecessors, and will be welcome alike to those who have studied it before, and to those who make its acquaintance for the first time.

ON A NEW TREATMENT OF CHRONIC METRITIS, AND ESPECIALLY OF ENDOMETRITIS WITH INTRA-UTERINE GALVANO-CAUTERIZATION. By Dr. Georges Apostoli, Free Professor of Electro-Therapeutics at the Practical School; Member of the Society of Medicine of Paris, etc., etc., with nine figures in the text, translated by A. Lapthorn Smith, B.A., M.D., Member of the Royal College of Surgeons of England; Fellow of the Obstetrical Society of London, etc., etc. Geo. S. Davis: Detroit, Mich., 1888.

In looking over the *New Orleans Medical and Surgical Journal* for February, we found the following statements in the London Letter: Sir Spencer Wells introduced Apostoli's electrolytic treatment of fibroid tumors of the uterus to the notice of the profession in this country, and some of his confreres whispered rather loudly that it was because he was becoming an old man, and had not the courage to perform hysterectomy, etc. These gentlemen have received rather a rude shock from Dr. Keith, of Edinburg, who has published a table of twenty-six cases of hysterectomy; these will probably, he says, be the last he will ever do. He expresses the deliberate opinion that hysterectomy is an operation that does more harm than good, and that the mortality which he puts at 25 per cent., though probably higher, is out of all proportion to the benefits derived from it. Dr. Keith has performed the operation sixty-four times, so that he is entitled to an opinion which it will be seen he couches in very decided terms—one out of every four women, he says, operated on for hysterectomy has till now died after an operation for the removal of a tumor that has, as a rule, a limited active existence, and that of itself rarely shortens life. We have no right to rush our patients into such a fearful risk, yet this is done every day.

Dr. Keith has been trying the electrolytic method of Dr. Apostoli. Its success, he says, is a great fact; he has used it in one hundred cases and has made twelve hundred applications. "So strongly do I now feel on this subject," he says, "that I would consider myself guilty of a criminal act were I to advise any patient to run the risk of her life—and such a risk, before having given a fair trial to this treatment, even were I sure that the mortality would not be greater than that which hysterectomy has given me in my private cases—under 4 per cent."

It was, therefore, especially interesting to us to get by the same mail this translation of Dr. Apostoli's writings on the subject. The book enters into full details and directions as to the application of the new method, and if we had the instruments at hand would be a most satisfactory guide to their use. Without them, even, the book is interesting in giving minutely the directions that have guided the author to such wonderful results. It cannot be said that the system of intra-uterine chemical galvano-cauterization has brought about a revolution in the treatment of some uterine affections. The fact that the author continually forces the *ego* upon his reader, while not altogether in harmony with our American method of thought or expression, may be passed over and allowed as being *à la mode* at Paris. We are not prepared to question the usefulness nor the field of applicability of this new method. As has been long since said "you can't argue with success."

RECTAL AND ANAL SURGERY. With a Description of the Secret Methods of the Itinerants. By EDMUND ANDREWS, M.D., LL.D., and E. WYLLYS ANDREWS, A.M., M.D., Chicago. W. T. Keeners, 96 Washington St.

This little book of 106 pages, on a subject, which is of no small interest to the general practitioner, is in some respects a rather entertaining one. The authors tell us that the book is the offspring of the inroads made by itinerants into the fields of the regular physician or surgeon. A short history, repeated we may here add, later on in the text, follows of an Illinois physician who started the irregulars in their work. There are some amusing digressions, though altogether out of place in a serious work. Witness the following on the word "colostomy:" "Aside from the absurdity of calling an anus a mouth, it is bad literary usage to mix two languages in coining a compound term. The only way to make a correct Greek derivative for this absurd purpose would be to say 'colostomatomy,' but this would be an intolerably long and harsh word." Again: "In quoting in this chapter the investigations of Kelsey, Pratt and Smith on certain ideas of the itinerants, it should be distinctly understood, of course, that these writers are not themselves itinerants." Not less absurd than this last quotation is the space taken up in proving the existence of the "rectal pouches" (*sacculi Horneri*). "Examination of the Rectum" is the subject of Chapter I. Then follows a chapter on "Piles," which is unquestionably the best thing in the book, occupying nearly a third of the whole space. We are not, however, prepared to accept the statement that there are no internal piles so high up that they never show during defecation. The chapter on "Fistula in Ano" is fair. Rectal Ulcers, Prolapse of the Rectum, Polypus and Other Benign Growths, Mechanical Obstructions of the Rectum, Malignant Tumors of the Rectum and Pruritus Ani, and, lastly, Mechanical Injuries of the

Rectum, are the headings of the remaining chapters. It is no wonder that these subjects are insufficiently and unsatisfactorily treated in fifty-three small pages. There are, however, some good suggestions on treatment, outside of which there is little or nothing added to the knowledge already collated on the subject, in any good work on surgery.

INTESTINAL DISEASES OF CHILDREN. By A. Jacobi, M.D. Detroit, Mich.: Geo. S. Davis. 1887.

Among the books which go to make up the Physicians' Leisure Library for 1887, is the one whose title we have just given. It is hardly possible that many of our readers are unacquainted with some of the excellent books belonging to this series. It has always been a matter of astonishment to us how such excellent men could be induced to write for a series of books which sell for two dollars and a half for the dozen numbers. Nor is it less a matter of astonishment how the publisher can make his profit from the venture. Indeed, we have never reached a satisfactory solution of the problem, but suggest as a possibility that the authors, among whom are Robinson, Fox, Dujardin-Beaumetz, Hammond, Garriques, Otis, and others of quite as much distinction, have concluded that it is not unwise nor ungenerous to give to that large proportion of the practicing physicians of the country, who have neither the time to read nor the money to buy more extensive works, a clear, well-cut, and practical digest of the several subjects in which they themselves are justly prominent. The present volume is no exception to the high standard of efficiency shown in its predecessors. The subject, too, is one of unusual interest to the general practitioner, particularly as the summer season approaches. It might possibly be advanced as an objection to the first part of this volume that considerable space is occupied in what is purely physiological matter; but when we reflect how little physiology remains among our immediately available knowledge, we are not ungrateful to the author for giving such a resumé as will be of value in the appreciation of the subject under discussion. Of the series as a whole, we can conscientiously say that we do not know of any source where so much useful and valuable information, at so small an outlay, can be obtained.

EVACUANT MEDICATION (CATHARTICS AND EMETICS). By Henry M. Field, M.D., Professor of Therapeutics, Dartmouth Medical College; Corporate Member Gynæcological Society of Boston, etc., etc. Philadelphia: P. Blakiston, Son & Co. 1887. Price, $1.75.

In this work, the author takes up all the more prominent cathartics and emetics, and, after giving a short history of each, discusses very fully the special action, uses, contra-indications, and mode of administration of each; also, with the poisonous ones, he gives their toxic action and manner of counteracting their effects. The material for the book has been, to a great extent, gathered from the clinical observations of a large general practice; but the writer also gives, quite extensively, the views of other authors and teachers. He also devotes quite a considerable space to the mechanism of the indications and contra-indications for cathartics and emesis, nor are his efforts in this direction wasted. On some points he differs very materially from some of our best authorities, notably so when he says apomorphia is very likely to require as long as twenty minutes to produce emesis! The book is very well arranged, and, on the whole, we think it commends itself to, and will be appreciated by, the members of the medical profession who read.

WYTHE'S POCKET DOSE BOOK. 17th Edition. Philadelphia: P. Blakiston, Son & Co.

This is a book of over two hundred pages, yet of convenient size for carrying in the pocket. It is rarely we find a small work containing so much knowledge useful to the physician. Rules to proportion the doses of medicine not only keep in view age, but sex, temperament, habit, climate, condition of the stomach, and idiosyncrasy. The materia medica takes the drugs alphabetically, gives their names, preparations, doses, and therapeutics. The preparations and modes of administration give the different forms in which drugs are found in the shops, and their doses. It also contains a list of incompatibles, and poisons and their antidodes.

The "hints on treatment and symptomology" are short and to the point. This little work is especially valuable to a young man just starting into practice, but will doubtless be generally appreciated.

FOUR MONTHS AMONG THE SURGEONS OF EUROPE. — By N. Senn, M.D., Ph.D. (Reprint.)

In a pamphlet of one hundred and fifty-seven pages, Dr. Senn presents us, in the form of a series of letters to Dr. Chr. Fenger, a most entertaining account of a short stay in Europe. Few men could have been so fortunate as the author, in not only meeting such a large number of distinguished operators, but in being an eye-witness to operations by so many of them. He concisely states the chief points in each case, giving just the history that a practical surgeon would like to have of the operation. After witnessing several operations by Mr. Lawson Tait, he concludes as follows:

"From what I gleaned from my observation in the practice of Mr. Tait, I have come to the following conclusions: 1. He is a skillful and dexterous operator. 2. He depends on a diagnosis by digital exploration in the majority of cases. 3. He removes the ovaries and tubes in cases for indications which few gynecologists would be willing to accept as justifiable for such a procedure. His wonderful success may be attributed to: 1. Aseptic surgery. 2. Small incisions. 3. No unnecessary exposure of peritoneal cavity. 4. Perfect familiarity with pelvic and abdominal surgery, as far as the mechanical performance of operations is concerned. 5. Rapid operating. 6. Careful supervision in the after treatment. There can be no question that much of his success also depends on the fact that he performs his operations almost without assistance, and in this respect all laparotomists should lose no time in imitating his example."

His account of Dr. Riedinger's method for the excision of the knee-joint, and his conclusions in regard to the operation, will prove of interest to many readers.

" The patient was a boy about six years of age, suffering from tuberculosis of the knee-joint. Evidently the disease was in its earlier stages, as the joint was only moderately swollen and did not present that sense of semi-fluctuation as is the case in advanced fungus inflammation of this joint, at the same time the articular surfaces were not displaced. The operation was performed as follows: The whole limb was thoroughly washed with warm water and soap, and subsequently with a 1-1000 solution of sublimate. Esmarch's constrictor was applied about the upper third of the thigh, and a *longitudinal* incision made over the centres of the patella, dividing the tissues with one stroke down to the bone, and passing through the lower portion of the quadriceps and the tendon of the patella. At a corresponding point the patella was sawn through in the same direction, so that the divided patella and the soft parts presented two symmetrical halves, which, when separated, exposed the joint fully to inspection, both by sight and touch. Without much difficulty the lateral halves were so widely separated that the lower end of the femur was brought fully into the wound and the articular end was removed with a saw, the line of section being below the epiphyseal cartilage. The tibial end was treated in the same manner. At least two osseous foci were exposed by the bone sections, and each was carefully scraped out with a sharp Volkmann's spoon. This long anterior incision fully exposes the upper recesses of the synovial sac, and renders the extirpation of the entire capsule an easy matter. After the extirpation of the capsule with curved scissors the whole surface was irrigated with a sublimate solution and carefully dried, and the parts restored to their normal relationship, and the two halves of the patella tacked together by applying two catgut sutures passed through the tendinous covering and periosteum, but not through the bone.

The only provision for drainage was a rubber drain introduced into the upper angle of the wound. As the limb is kept in nearly perpendicular position for at least twenty-four hours, the drain occupies the most dependent position of the wound, and answers all requirements. The remainder of the wound is closed with silk sutures. A copious gauze dressing, embracing nearly the entire limb, is applied, over which a thick layer of absorbent cotton and equable compression by bandaging limb from toes to groin. A posterior hollow splint, with foot-board, serves to immobilize the limb. The constrictor is not removed until the whole dressing is applied. The first dressing is not changed for a week, when the drain is usually found outside of the wound. As the wound at this time is usually firmly united, the sutures are removed and the limb put in a plaster-of-paris splint. Anatomically this operation presents a number of advantages. I have always observed after making the transverse incision, that on account of muscular traction of the extensors of the leg, there is not only a tendency for separation of the fragments of the patella, but a constant traction always results in the formation of a wide and often ugly cicatrix in the skin; conditions which are avoided by the anterior longitudinal incision. When the articular ends of the bones are brought fully into such a wound by forcibly flexing the leg upon the thigh, the entire synovial sac is brought into full view and rendered accessible to removal with scissors. The tissues divided in the direction of the axis of the limb, serve a most useful purpose in securing immobilization during the process of repair."

The following is an account of an operation by Dr. Gussenbauer, of Prague, for genu valgum:

"The fifth case was a genu valgum. I had seen so many cases of osteotomy for this deformity that I was very anxious to witness a bloodless procedure for the correction of the false position. Dr. Gussenbauer has for a long time abandoned the cutting operation, and substituted for it the simple *redressement*. He showed me several dozen of photographs taken before and after treatment, and the final results certainly compare favorably with those obtained by osteotomy. The advantages of this treatment consist in an absolute safety against infection, and in requiring less time on part of the patient. After the patient is fully anæsthetized he is placed on his side, and the surgeon puts the limb upon his right shoulder in such a position that the convexity at the knee is directed upwards. With both of his hands he makes forcible interrupted pressure over the knee, and if his force is not adequate to correct the deformity one or more assistants help to increase the force. The straightening is gradually accomplished, and often attended by an audible noise caused by the rupture of ligamentous structures. The whole object of the operation must be accomplished at one sitting, and the proper axis of the limb must be completely restored. In the case I saw, the deformity was considerable, and the patient otherwise a healthy young man. It required the combined efforts of the operator and two of his assistants to properly straighten the limb. After the operation, the limb is at once secured in a plaster-of-paris splint. After three weeks an interrupted plaster splint is applied, with a hinge-joint on each side, and the patient is allowed to walk without the aid of crutches. Gussenbauer has never observed any unfavorable results after this procedure, and in ordinary cases confidently expects a favorable result. The patients are required to wear a lateral support for at least six months in order to prevent a recurrence of the deformity. I am satisfied that, in the milder forms of genu valgum and varum, this treatment is more applicable than osteotomy, and should always be tried before resorting to the more serious measure of causing a fracture."

Numberless other surgeons are mentioned and operations by them described in detail.

Altogether in his observations and descriptions Dr. Senn has given us an instructive series of letters, which it will be well worth the time of any practitioner to get and read.

PHARMACY AND THERAPEUTICS.

THE ANTAGONISM OF DRUGS.—Sidney Ringer, M.D., F.R.S., in the *British Medical Journal*, writes: Recent investigations render it probable that alkaloids or extractives formed from food in the gastro-intestinal canal, or from the tissues of the body, cause many of the diseases we are called upon to treat. These alkaloids or extractives arise from physiological or morbid changes, and if in undue quantity, or if not quickly eliminated, they may act like poisons introduced into the system from without. Some of these ptomaïnes and leucomaines produce effects similar to vegetable alkaloids, as, for instance, atropine, muscarine, or curare. Indeed, muscarine can be obtained, not only from the fungus agaricus, but also from animal tissues. Now, muscarine, even in poisonous doses, we can effectually antagonize by atropine.

I shall show you to-night that some inorganic and organic poisons can be completely antagonized, normal function being restored. The study, then, of the antagonisms of poisons becomes of much interest and importance, as we may confidently expect, as the result of further search, that we shall be able to obviate the effects, not only of inorganic and organic alkaloids, etc., introduced into the system, but the effects of ptomaïnes or leucomaines engendered in the animal body. Probably some of our successes in treatment are already due to our drugs antagonizing these products.

A short time ago an interesting controversy arose regarding the reciprocal (mutual) antagonism of drugs. On one side it was maintained that drugs might be mutually antagonistic, while other observers denied this statement. The former maintained that the effect of a drug might be antagonized by a second drug, which, if increased in quantity, would manifest its own individual effects, but these effects could be removed by increasing the quantity of the first drug. To take an example, atropine will antagonize the action of muscarine, and muscarine the action of atropine on the heart. To take another instance, atropine will antagonize the action of jaborandi on the submaxillary gland, and *vice versa;* if, after atropine has antagonized the action of jaborandi, a further quantity of jaborandi is administered, it will overcome the action of atropine, and salivary secretion will return.

Rossbach disputed this, and maintained that while one drug increases, another depresses or suspends function, and the drug which increases function can never overcome the effect of a drug that has abolished function. He admitted that when atropine arrests the secretion of the sweat-glands, pilocarpine may produce perspiration, but he asserts that this occurs only with a small dose of atropine just sufficient to paralyze the secretory nerves, but not the secretory cells of the gland, and that pilocarpine stimulating the cells may produce perspiration. But he maintains that a larger dose of atropine paralyzes both the secretory nerves and the secretory cells, and after this stage no amount of pilocarpine will excite perspiration.

I shall show you conclusively that drugs can be reciprocally antagonistic. I shall demonstrate that the effect of a toxic dose of calcium chloride on the detached ventricle of the frog's heart can be quite antagonized by a toxic dose of potassium chloride, and, *vice versa*, that a toxic dose of potassium chloride sufficient not only to arrest spontaneous beats, but sufficient to prevent a strong induction shock exciting any contraction, can be antagonized entirely by a toxic dose of calcium chloride, and by the careful appointment of the two salts their antagonism can be so nicely balanced that the ventricle will beat spontaneously and quite naturally. Moreover, I will show that a toxic dose of potassium chloride will antagonize a toxic dose of veratria, and, *vice versa*, a toxic dose of veratria will antagonize a toxic dose of potassium chloride, and these two substances may be given with such equipoise as completely to antagonize each other, so that the ventricle will beat quite naturally and spontaneously. So that in the case of calcium chloride and potassium chloride, and again in the case of veratria and potassium chloride, we may have in the circulating fluid two of each series present in toxic doses without either poison exerting any apparent influence on the ventricle, which goes on beating spontaneously and normally; but if one salt were administered singly, it would powerfully affect the functions of the ventricle to an extent incompatible with life.

Concerning the antagonisms to which I wish to draw your attention to-night, I will refer first to a physiological antagonism. If the ventricle of the frog, or of the eel, or of the tortoise, is fed with saline solution (.66 per cent.) contractility soon ceases, and cannot be induced by a strong electric shock. On the addition of a lime salt, even in very minute proportions, of 1 part of lime salt to 10,000 parts of saline solution, contractility immediately returns, but the contraction is abnormal, for the dilatation of the ventricle is greatly prolonged, so that the whole contraction lasts much longer than natural. The addition of a small quantity of a potassium salt, as for instance, potassium chloride, 1 part in 15,000 of circulating fluid, obviates this effect of the calcium salt, accelerates dilatation, and induces a perfectly normal beat, and with such a solution, good contractions are sustained for several hours. Here, then, we have an antagonism between lime and potassium salts, affecting, however, only one part of a contraction, namely, the relaxation of the contracted muscle.

Not only are the salts of these two substances (potassium and calcium) antagonistic in physiological doses, but they are likewise antagonistic in toxic quantities.

If to a solution capable of sustaining the ventricular contractions we add a toxic dose of potassium chloride, the contractions speedily cease, even when the ventricle is strongly stimulated. Now, on adding a toxic dose of calcium salt, the potassium chloride is antagonized, and if the calcium salt is added in suitable quantity, complete contractility is restored, and the ventricle beats spontaneously and normally; and *vice versa*, if we add to the circulating fluid a toxic dose of calcium chloride, we greatly prolong the duration of the contraction, and especially retard relaxation, but on the addition of a toxic dose of a potassium salt these lime effects are obviated, and normal spontaneous contractions ensue.

Here, then, we have instances where two substances in toxic doses so antagonize each other that natural beats occur; while either substance, added alone to the circulating fluid, powerfully affects the functions of the ventricle to an extent incompatible with life.

We are able, however, to analyze the antagonisms between these salts more minutely still. During a contraction, four distinct sets of changes occur in the muscular tissue of the ventricle, namely, changes occurring during the latent period, during the period of contraction, during the period of relaxation, and reparative changes independent of those permitting relaxation. Now, potash salts, like veratria salts, greatly retard these reparative changes, so that in a ventricle poisoned by potassium chloride these reparative changes are very slowly performed, and hence, after the completion of contraction and relaxation, if a subsequent contraction is soon induced it is a very weak one, or if the stimulus is too soon applied to the ventricle no contraction may occur, and cannot be induced till a short time has elapsed, and then the amount of contraction depends on the length of the diastolic pause. This effect of potassium chloride on the reparative changes a calcium salt completely obviates.

We see, then, that a potassium salt accelerates relaxation but retards reparation, in both these respects being antagonized by a calcium salt, and *vice versa*. Another antagonism between potassium and calcium salts still remains to be noticed. If a ventricle be allowed to remain without contracting from a few seconds to a minute, then, on exciting it, the first contraction is weak, and the subsequent contractions grow gradually stronger till normal contractions occur. This staircase character of beats depends, I believe, on the action of the potassium salt in the circulating fluid, and the degree in which it occurs is in proportion to the relative amount of potassium chloride in the circulating fluid. A calcium salt, as calcium chloride, quite obviates this effect. If sufficient calcium chloride be added, no matter how long the ventricle remains without contracting, the staircase character of the beats is prevented, or is very slight indeed.

Strange as it may appear, veratria affects the ventricle much after the manner of lime salts. Thus, added to simple saline solution, it will restore contractility, and further, like lime, it greatly prolongs the duration of the contraction, and especially delays relaxation of the contracted ventricle, and, like lime and potassium salts, we find veratria and potassium salts are mutually or reciprocally antagonistic.

For instance, the addition of veratria to the circulating fluid produces either great irregularity in the contractions, or very great delay in dilatation, according to the temperature of the room. This irregularity a toxic dose of potassium quite removes, and good spontaneous contractions return. Further, if the ventricle is greatly weakened or arrested by adding a toxic dose of potassium chloride, veratria quite antagonizes the potassium chloride effects and restores spontaneous and normal contractions.

Barium and calcium salts, as might be expected from their chemical relationship, have many actions in common. It is interesting to observe that, although lime salts and barium salts both broaden the beat, causing fusion and contracture, barium salts effect this more powerfully than calcium salts; yet after barium has produced its effects, on the addition of a calcium salt, instead of obtaining the sum of their united action, the effects common to both salts become less. In other words, lime takes possession of the muscular tissue, excluding the action of the barium salts. It would appear, then, that of two substances affecting the same tissue in the same way, when administered therapeutically, one will not intensify the action of the other, but may replace the other, and we get the action of only one substance, and this, while having a greater affinity for the tissue, may induce a less physiological effect. These results are very interesting, and, I venture to think, have considerable importance, both physiologically and therapeutically. Thus we have seen that barium and calcium both exert an influence in the same direction, but the barium molecule is the more active in respect of its influence on the ventricular contraction. If, however, we bring both molecules into action simultaneously, we see that the resultant effect, instead of being greater than with either component, is less, the lime displacing the barium and inducing its less physiological disturbance. The relation of this subject to practical medicine is very clear and important, for on the question of the combination of drugs we must remember that the joint action of two drugs functionally similar is not necessarily greater than that of either separately, and may be even weaker than one of them given separately. I have said necessarily, for in some instances two substances having the same action do increase the action of either separately, so that we get the sum of their joint action. This is the case of lime and veratria.

So far, we have seen that substances may be antagonistic in two ways. The first we may term physiological, for instance, where two substances inducing an opposite physiological effect on a tissue may be so adjusted that the poisonous action of both is prevented. In the other case the antagonism is probably chemical, and one substance may by a stronger chemical affinity, displace another poison, and this may occur, and indeed is most likely to occur, when both substances are chemically related, and have a similar physiological effect. But there are other ways in which a substance may act as an antidote.

A lime salt in the circulating fluid, we have seen, is necessary for the contraction of cardiac muscle. Now, a soluble oxalate destroys function, in part, by combining with the lime in the circulation and rendering it insoluble, and so, inoperative. Here, then, we obviate the poisonous effects of an oxalate by adding lime to the circulation. There are still, however, other ways in which we can antidote a poison. A soluble oxalate not only destroys function by withdrawing lime, but is directly, to some extent, poisonous to the cardiac muscular tissue; and this poisonous action we obviate by the administration of a lime salt, which combines with the oxalic acid, forming an insoluble and therefore inoperative compound. To take another instance, soluble barium salts are poisonous to the cardiac muscle and arrest the ventricle in systole. Now I find that the addition to the circulating fluid of a solution of sulphate of soda will precipitate the whole of the barium, and the ventricle will speedily resume its normal contractility, even though the contractions have been suspended for an hour. The effect of the sodium sulphate is very rapid. Barium salts, one would think, can prove poisonous only to the tissues after more than enough has been absorbed to combine with the whole of the sulphuric acid in the blood and tissues, and it is possible that part of the action of a barium salt may be due to the withdrawal of sulphuric acid from the tissues.

Finally, there is another way by which the poisonous action of some substances can be greatly lessened. Some poisons prevent the changes which take place in the exercise of a function, as, for instance, the contraction of muscle. They do not destroy the structure, they only suspend function, and this power they possess only when the poison reaches a certain percentage of the circulating fluid. If the fluid is diluted, then, the percentage amount becoming less, the poisonous action is greatly reduced. This is the case with potassium and most other salts. This fact probably explains the effect of bleeding, which has been successfully employed in some cases of poisoning, and is highly successful in uremia. The loss of blood induces a rapid absorption of the intercellular fluid and water from the gastro-intestinal canal, and so, diluting the poison, lessens or removes the symptoms. If bleeding proves unsuccessful, the influence of dilution suggests transfusion of a saline solution, also the free administration of liquids by the stomach—methods I long ago suggested.

I now bring this demonstration to a close, and I conclude by expressing the hope with which I commenced my remarks, that the antagonisms we have witnessed justify us in confidently expecting that further investigation will discover remedies by which we shall safely antidote the poisons generated in the body, and that these discoveries will enable us to relieve much suffering or even to save life.

JOHN AULDE, M.D., in the course of an article entitled "The Study of Strophanthus," says:

Therapy.—Strophanthus will undoubtedly be welcomed by the profession as a capital remedy in the treatment of cardiac affections. Without clinical observations, it would be difficult to point out all the cases in which it might be used to advantage, but there are some conditions in which strophanthus is decidedly to be preferred, and in these instances it should invariably have a trial. Dr. Fraser regards mitral disease as the most likely to fall within the scope of its action, and the cases he has presented seem to warrant that conclusion. Dr. Collins, on the other hand, has remarked that all aortic troubles are more amenable to strophanthus treatment than mitral affections. He has recently had an excellent opportunity of witnessing remarkably good effects in such a case. The patient, a lady, had been pronounced wholly incurable from organic heart disease, and was suffering greatly from œdema and anasarca. There was a distinct aortic murmur, and under ordinary treatment her condition had gone from bad to worse, but the judicious use of strophanthus shortly relieved all trouble. My own observations have been uniformly satisfactory in the treatment of both aortic and mitral affections, as well as in cases of incomplete closure of the heart due to atheromatous conditions. I may relate briefly an account of a case which comes under the category of mitral affections: A lady, under 30, had been under my care for some time, when there gradually developed dyspnœa with a-rhythmic cardiac action, and slight mitral regurgitation, but there was no œdema. Inability to walk even a short distance, was the principal difficulty. Two and a half minims of strophanthus tincture, three times daily, gave almost immediate relief. This case belonged to that class known as the irritable heart of lithemia.

Exophthalmos would be a suitable condition for the use of strophanthus as respects the heart, but it should be supplemented by ergot. In the case of fatty degeneration of the heart, strophanthus, it seems, is clearly entitled to supercede strychnine and nux vomica, and the same may be said of the later months of pregnancy, when the cardiac muscle has become flabby, and there is persistent œdema. Its applicability in the later stages of pneumonia, when the nutritive processes are at a low ebb, and the heart demands a tonic, it seems, is clearly indicated. Frequently it will be far safer to depend upon than alcohol, and need not interfere with the administration of special stimulants, such as ammonia. Typhoid fever, when the first sound of the heart becomes weak, will demand strophanthus, and especially should this suggestion be acted upon when it is deemed advisable to administer antifebrine during its course. The hypodermatic method commends itself in these cases, but I have already placed myself on record on that subject, and need not refer to it here.* As a means of counteracting the tendency to heart failure in the administration of ether and chloroform,

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**Medical Register*, vol. ii, p. 466, 1887.

it will eventually outrank morphine and atropine, and as an antidote to the baneful effects of chloral, its value cannot be overestimated.

Physiological action.—A consideration of the therapeutics of the drug would be incomplete without some reference to its physiological action, and on this point I cannot do better than quote from Dr. Fraser's admirable paper, in which the action of strophanthus is compared with that of digitalis, the experimental portion of the work having been attended to largely by his efficient assistant, Dr. Stockman. "It was found that solutions of digitalin of one part in 100,000, of one part in 50,000, of one part in 10,000, of one part in 5,000, and of one part in 4,000, each, produced characteristic changes in the heart's action, but were not sufficiently strong to kill the heart, at any rate, not within two hours.

"With strophanthin, on the other hand, a solution of one part in 100,000 quickly stopped the heart's action in extreme systole, characteristic changes in the heart's action having been previously produced. I then increased the dilution; and in solution of one part in 250,000, of one part in 500,000, of one part in 1,000,000, of one part in 2,000,000 of one part in 3,000,000, of one part in 4,600,000, of one part in 6,000,000, and one part in 10,000,000, were each tried, with the result that the heart was characteristically affected and killed by each of them. Even the almost inconceivably minute dose, which was brought into contact with the heart, when a solution of one part in 6,000,000, of strophanthus was used, produced complete stoppage of the heart's contractions in extreme systole, in about twenty minutes."

Comparing the action of the two remedies on the blood-vessels, we have the following experiment: "Employing the same digitalin which was used in the heart experiments above referred to, it was found that in a frog whose central nervous system had been destroyed, a solution of one part in 30,000 passed through the blood-vessels, produced, in six or seven minutes, such extreme contraction of the vessels as practically to prevent the solution from passing any longer. Substituting, in other experiments, strophanthin for digitalin, a solution of one part in 20,000 had no appreciable effect; nor, indeed, could any decided effect be detected, even when the strength of strophanthin solution was increased to one part in 3,000; but a temporary effect, which was soon recovered from, was produced when the solution was increased to one part in 2,000."

MISCELLANEOUS.

THE TREATMENT OF ABSCESSES (G. De N. Hough, M.D., New Bedford, Mass.)—Acute suppuration is always due to the entrance of micro-organisms into the tissues. This assertion is based upon the following facts: 1. In at least 98 per cent. of all abscesses examined microbes have been found, and as experience in bacteriological work increases, the number of cases in which they are not found diminishes. 2. Inoculation of the tissues with pure cultivations of the organisms found in suppurative processes produces suppuration. 3. The injection into the tissues of chemical irritants freed entirely from micro-organisms never produces suppuration.

Cold abscesses are of tubercular origin, as is proved: 1. By their always containing tubercle bacilli or their spores. 2. By the fact that inoculations with tubercle bacilli produce cold abscesses. Whether the abscesses of actinomycosis are due to the actinomyces or to the ordinary organisms of suppuration is at present unsettled. Abscesses are made ichorous by the bacilli of putrefaction, which alone cannot produce suppuration. How the organisms produce suppuration we do not yet know; certainly not by any mechanical effect; and Brieger has lately shown that the commonest of the pus cocci develop no ptomaïne in their cultivation media, the *Staphylococcus pyogenes aureus* producing only ammonia, the *Streptococcus pyogenes* trimethylamine, neither of which substances can produce suppuration.

It is a very recent advance in surgery to base the treatment of abscesses upon exact knowledge of their ætiology, and such treatment, by no means as yet adopted by the general practitioner, has hardly come into general use among surgeons. The object of our procedure is to convert the suppurating focus into an aseptic wound which shall heal by first intention. Disinfect the skin over the part to be operated upon and for some distance round, by thorough scrubbing with soft soap, hot water, and a nail-brush for from five to ten minutes, shaving clean, and then scrubbing with chlorine-water (aquæ chlori, aquæ destillat. partes æquales) or carbolic acid (5 per cent. solution). The chlorine-water is preferable, but too expensive ($4 a gallon). My own hands and forearms and those of my assistant are scrubbed in the same way. Instruments are cleaned, disinfected by heat or strong antiseptic solution, and immersed in hydro-napthol solution (1 to 1,200), hot. The parts to be operated upon are surrounded by towels wet in 1 to 1,000 hot sublimate solution. A free incision is now made into the abscess, not at the place of pointing, but through sound integument, and its walls are thoroughly scraped with a sharp spoon till healthy tissue seems to be reached, irrigating freely meanwhile with as strong a sublimate solution as is thought safe, usually 1 to 1,000. If trabeculæ cross the abscess (very common in the female breast), break them down and make a single smooth-walled cavity. In glandular abscesses, such as those associated with tubercular glands of the neck or axilla, or with buboes, it is best to treat the diseased mass as a tumor and, if possible, extirpate it without opening the abscess; but if the skin over the glands is involved, I take care to make the incision through healthy integument at one side of the mass of glands, advance behind it and work to the surface on the opposite side, opening the abscess itself as late as possible, and taking every precaution to prevent the pus from coming in contact with healthy tissues. Having thoroughly removed all suspicious tissues and, by scraping and irrigation, obtained an aseptic wound, the introduction of sutures and drains follows. I take great pains to apply sutures so as to obliterate the entire cavity, and, if this is possible, prefer to use horsehair drains. Finally, a firmly-compressing dressing of sublimated absorbent gauze (prepared by soaking in a 1 to 500 sublimate solution containing 10 per cent. of glycerine), and Am Ende's sublimated paper-wool is applied. Within twenty-four hours the temperature usually rises to 100° or 100.5°, but in twenty-four hours more it falls to normal, and there remains unless elevated by some cause associated with the operation. Twenty-four to seventy-two hours after the operation, according to the size of the abscess, I change the dressing and remove the drains. The second dressing remains on for a week, as a rule. It is rare for more than three to be required.—*N. Y. Medical Journal.*

THE NATURE OF TETANUS.—At the last International Medical Congress, several papers were read, and interesting remarks were made on the nature and treatment of tetanus. Certain of the speakers were inclined to accept the theory of the microbic origin of this disorder, and some seemed inclined to the view recently advanced by Verneuil, that tetanus is naturally a disease of horses, and that it is communicated to man by association with them.

The strongest arguments in favor of this theory depend upon the results of experiment. About a year ago, Rosenbach, of Göttingen, read a paper before the Fifteenth Congress of German Surgeons, in which he gave a summary of what had been done by others before him, and added an account of some experiments of his own. Carle and Rattone succeeded in producing tetanus in eleven out of twelve rabbits by inoculating them with the contents of acne postules.

Nicolaier believed that the germ of tetanus was to be found in the earth, and he produced symptoms like those of tetanus, in rabbits, by inoculating them with the soil of a garden. Rosenbach took material from the frozen and gangrenous foot of a man suffering with tetanus, and inoculated two Guinea-pigs, which developed symptoms of tetanus and died in about twenty-four hours. Material taken from the seat of inoculation in these animals, produced similar symptoms in four new Guinea-pigs and eleven mice. Cultivations of a bacillus, which Rosenbach isolated, proved active at his hands as far as the fourth generation. These experiments are, however, not so conclusive as some have thought. In the first place, the animals experimented upon are so sensitive to experimental inoculation, that we cannot safely argue from them to human beings. In the second place, the specific germ described has never, so far as we know, been found in the tissues of human beings; and in the animals experimented on, it has been found in entirely inadequate numbers. Again, the clinical history of tetanus is often irreconcilable with the germ theory—cases occurring idiopathically, without any presumable supposition of inoculation, and some developing so rapidly, and terminating in so short a time, as to preclude the idea of germ development, sufficient to account for the phenomena. Nicaise has reported a case caused by dashing a glass of cold water in the face of an infant; and many of our readers have no doubt seen cases of trismus nascentium, in which no germ infection could be rationally imagined. Other cases occur, which cannot be explained, except by attributing them to the effect of cold. Such a case came under the observation of the writer not long since. Still other cases seem to be, at least in part, the result of strong mental impressions acting upon neurotic subjects. In fact, we believe that none of the theories offered in regard to the nature of tetanus is so weak and purely hypothetical as the germ theory.

The "equine theory," as it has been called, has found little acceptance outside of France, where it first saw the light. It rests upon assumptions which will not bear the most ordinary scrutiny. It may be that one or two French surgeons have found that patients with tetanus have been associated with horses, as grooms or stablemen, but we have no idea that such association could be traced to even a small proportion of the cases occurring all over the world. Certainly, the babies affected with trismus nascentium could hardly be put in the same category with the stablemen alluded to. Dogs are very prone to tetanus, but we believe no one has ever suggested that men get it from dogs.

On looking over the whole subject, we must come to the conclusion that we have as yet no sound theory as to the nature of tetanus, and must take care to avoid a hasty acceptance of plausible hypotheses in regard to it. Meanwhile we must patiently study the phenomena of this disorder, in the hope that some day the difficulties which surround it may be overcome, and a correct opinion be established.—*Exchange.*

IS cleanliness essential to health? Chauncey M. Depew, in a lecture on Ireland, says: "Children swarm everywhere, for the marriage bond in Ireland is a coupon bond, and they cut one off every year. I said to a distinguished English sanitarian, 'See how these people live, and what pictures of health they are, while we in New York are ventilated upon a new principle every month, and in fighting sewer gas, squander our incomes and become the abject slaves of the plumber. How do you account for it?' 'Well,' said the nonplussed scientist, 'it establishes the fact that there are only two conditions for perfect health—either all dirt or no dirt.' And yet the intelligence and morality among them are superior to those of any other peasantry in Europe, and out of these cabins will trip barefooted girls, so rosy-cheeked and neat, and sweet of voice, to sell you the little articles they knit, with a bit of bright color in their shawls to contrast with their dark hair, that they seem to have dropped from the clouds."

A CASE OF EXTRA-UTERINE PREGNANCY CURED BY LAPAROTOMY.—Schustler reports in the *Wiener Medicinische Wochenschrift*, No. 37, 1887, the case of a woman, aged thirty-three, who was admitted into Von Dittel's clinic for the treatment of an abdominal tumor. She supposed herself pregnant, but all the usual signs of pregnancy were wanting. A diagnosis of a tumor proceeding from the internal genitalia, and probably a multilocular ovarian cyst, was made. When laparotomy was performed, the case was recognized as an extra-uterine pregnancy, whose sac contained a decomposed, fully-developed fœtus. The mass was removed, the placenta not being recognizable. An attempt to remove the entire sac failed on account of its connections with the abdominal viscera. Its walls were, however, stitched to the edges of the abdominal incision, and its cavity was filled with iodoform gauze, and a drainage tube was brought out at the external wound. The further progress of the case was entirely favorable. The sac suppurated freely, and many pieces of necrotic tissue were discharged, which were thought to be pieces of placenta, which had decomposed. The patient made a good recovery in about three months. The writer considers that the great danger which the presence of a dead and decomposed fœtus, when developed outside the uterus, occasions to the pregnant woman, is full warrant for resorting to laparotomy to remove the danger. This is especially true when the condition of the patient is so good as to lead to the hope that an operation will be successful, and when the condition of the case will not admit of delaying until the decomposition of the fœtus and the peritonitis, which it occasions, have rendered an operation hopeless.

THE BRAINS OF CELEBRATED MEN.—At the Société de Psychologie Physiologique, M. Manouvrier read a report upon the brain of the late Dr. Bertillon, the eminent statistician, and compared it with the brain of Gambetta, which has been studied by Mathias Duval and Chudzinsky. In weight Gambetta's brain was below the average, only scaling 1,290 grammes. That of Bertillon exceeded the usual weight, reaching 1,394 grammes. It is now admitted that, other things being equal, the weight of the brain is in proportion to the intelligence of the individual, and, moreover, the greater the intelligence the greater the absolute and relative development of the frontal lobes. A comparison of the brains of Gambetta and of Bertillon shows that the former is smaller, more particularly in the anterior portion, less so posteriorly, and that the temporal region is even larger. Now, the qualities of the two men were diametrically opposite. Gambetta was active and loquacious, Bertillon was reticent and retiring. Although an admirer of oratory, he had always failed as a speaker. In Gambetta's brain the circumvolution of Broca is extremely developed; in Bertillon's it is reduced to its most simple expression. Bertillon was in his youth left-handed, but he became ambidextrous later in life. The third frontal circumvolution on the right side (the speech centre of the left-handed) is larger than the corresponding one on the left side.

CASE OF SEVERE POST-PARTUM HÆMORRHAGE SUCCESSFULLY TREATED BY INTRA-VENOUS INJECTION OF SALINE FLUID (Blagdon Richards).—On December 19, 1887, I attended Mrs. H——, aged thirty-four, in her eighth confinement. There was a history to the effect that on previous occasions difficulty had been experienced in the removal of the placenta. The child was born at 9:30 A.M., and as attempts to express the placenta, *secundem artem*, failed, I removed it with the hand; but upon examination calcareous degeneration of the placenta was observed, and it was evident that a portion remained still adherent to the uterus. The hæmorrhage was continuous, and the uterus would not respond sufficiently to manual stimulus to justify the hope that the patient might recover without some further assistance. The pulse was now almost imperceptible, the woman blanched, restless, but conscious. Brandy and ergot were administered at short intervals in small doses, and I telegraphed to Mr. Jennings to bring his transfusion apparatus. Upon his arrival Mr. Jennings concurred with me that the remains of the placenta should be extracted from the uterus, which was effected, stupor having been induced by the inhalation of a little chloroform to facilitate the procedure. The uterus being now quite empty, the organ was packed with small lumps of ice, and manual pressure upon its fundus intrusted to the nurse. It was now observed that the pulse was small and very quick, but its frequency was not noted. Great thirst was complained of, and we thought that the condition of the patient indicated the necessity for intra-venous injection of fluid. Sixteen ounces of saline fluid (temperature 98° F.) were accordingly injected, about noon, into the cephalic vein of the right arm. Signs of increased animation were coincident with the intra-venous injection, and the feeling of thirst considerably lessened. The frequency of the pulse was reduced to one hundred, and its character approached the normal. This patient has made an uninterrupted recovery.

FATAL INJURY TO CHEST, COMPLICATED BY A RARE FORM OF DISLOCATION (Ed. Evans, M.D., Seaforth, Ont.).—July 12th was called to see Wm. O'K. A beam of timber, forty feet long and twelve inches square, had fallen on him, pinning him to the earth. On this being removed he was able to walk a short distance. Patient was found sitting in a chair, leaning on left elbow, with head bent forward to the right. He was very pale, and his hands were cold. Pulse 76, and strong; respirations 26, gasping and painful; voice weak, and speaking difficult. On removing shirt a large emphysematous swelling occupied area about lower angle of right scapula; over this area was evidence of a severe bruise. On manipulation distinct crepitus could be got in the seventh and eighth ribs of right side, and anterior portions of them were easily depressed, causing patient severe pain. Site of fracture was under the emphysematous area. On percussion (which could be but imperfectly performed) there was no dullness over lung. Auscultation gave larger bubbling râles over the site of fracture, limited in area. There had been no hæmoptysis on my arrival, but it began soon after and persisted for about five hours, never very profuse.

The application of a chest bandage, rather firmly applied, afforded some relief, and so it was left on. I gave him a hypodermic of morphia, gr. 1-4, and atropia, gr. 1-100, and ordered applications of ice to side. An hour afterwards auscultation revealed bubbling râles over a much larger area of right lung. Hæmoptysis was more profuse, and the cough, short and hacking, had become very distressing, and the pulse faster and rather unsteady. I therefore ordered the ice to be sedulously applied, absolute rest to patient and avoidance of speaking, and gave a dose of ergot (to be repeated), and also a sedative for the cough. He was now pretty free from pain, and remained so during the night. There was dislocation of the right sterno-clavicular articulation *upwards*. (In Ashhurst's "System of Surgery" there are said to be only twelve or fourteen such cases on record.) The head of the bone could be fairly well defined in the supra-sternal notch, and the sternal tendon of the sterno-mastoid was tightly notched over it, forming quite a distinct prominence. It was easily reduced by drawing the shoulder outward and backward, while the head of the bone was pressed into position. No apparatus was applied, and it remained well in position till death. The shoulder was driven inward and forward by the beam.

Next morning patient said he had passed the night fairly well. The cough was still troublesome, constant, hacking, and feeble; was spitting very little clotted blood. Respirations 30; temperature 99°; pulse 80, and steady. Patient said he felt pretty well, but he was restless, anxious, and talkative. Chest was tympanitic on percussion. Auscultation, few râles were heard; breathing was blowing, except over upper third. A peculiar whistling sound was also heard, especially on expiration. Patient continued nicely till 12 A.M., when he became pale, livid, and cold, and breathing became faster and more oppressed. When seen at 8 P.M., patient was pale and weak; could not speak above a whisper, and then only a few words. Respirations 56; pulse 120, weak and thready; temperature 99°. The whole of right lung was full of large bubbling râles, as was also the upper part of left lung. Patient died at two o'clock that night, thirty-six hours after injury, attendants saying, "He smothered."

STUDY OF NERVOUS DYSPEPSIA.—Experiments were performed among insane patients, and hitherto only upon melancholic patients, who were perfectly free from any stomach trouble. The following facts could be deduced:

1. The rapidity with which the stomach empties itself after the administration of a meal, consisting of an ordinary mixed diet, is much increased.

2. The acidity of the stomach during digestion is much greater than in perfectly healthy people (hyperacidity).

3. The strong acidity is entirely due to the presence of free hydrochloric acid. Organic acids seldom find their way to the stomach, and if so, only in diminutive quantities.

4. The peptic power of the stomach upon meats is excellent. The

peptic power of the filtered contents of the stomach upon albuminates about normal.

5. A continued hypersecretion of the juices of the stomach, after the contents have passed through the stomach, does not take place.

6. Dilatation of the stomach was not found.

It would be supposed that the hyperacidity of the stomach would give rise to some unpleasant symptoms. The reason that it does not is probably owing to the short space of time that the contents remain in the stomach, and, besides, the observations were all made upon patients with perfectly healthy stomachs; moreover, the hyperacidity was not of the strongest kind, but only moderate.

The therapeutic value of these experiments would consist in avoiding hydrochloric acid and pepsin, and all articles of diet which would excite the secretory glands of the stomach in the dietetic treatment, and in case the acidity causes any unpleasant symptoms, to administer bicarbonate of soda.—*The Weekly Medical Review.*

CLEVER DETECTION OF A CRIMINAL BY A DOCTOR.—A rather novel point in forensic medicine has arisen in connection with the murder at the Rue Montaigne, Paris, the victims of which were a celebrated *demimondaine*, who, along with her maid and maid-servant, was found murdered in their apartments under circumstances of great cruelty. Their throats had been cut after a severe struggle, and their bedding and the walls of the apartments in their vicinity were copiously bespattered with blood. The unfortunate chief victim was the possessor of jewelry and other valuables to the extent of some thousand pounds, presumably the motive of the murder. These, however, were in an iron safe, and as the murderer, who was evidently single-handed, could neither open this nor carry it away, he had to leave without the wages of his crime. The key was subsequently found concealed in a wardrobe. A man named Pranzini, a follower of the victims, was arrested upon suspicion, but the closest examination of his clothes, both those which he had worn on the evening of the crime, and those found at his residence, showed no trace of blood. This was relied upon as a strong point in the defence, but Dr. Brouardel, the *Médicinlégiste* engaged in the matter, recalled the fact that in the next apartment was found a toilet-stand upon which was a large basinful of ensanguined water, as if some person stained with blood had washed therein. As none of the three victims had presented the appearance of having done this, Dr. Brouardel conceived the idea that the murderer had, on entering the apartments, undressed himself, had committed the crime in a state of nudity, had then carefully washed himself of its traces, and had finally, all being completed, resumed his clothes, of course free from all sanguineous stains. Dr. Brouardel now demanded from the *juge d'instruction* an authorization to examine Pranzini totally undressed, and on this being accomplished found a long tearing scratch (*estafilade*) extending down the front of his right thigh. Interrogated upon this, the prisoner said that he had been attacked by a severe itching in the part and had torn himself in relieving it. Being invited to repeat the gesture, he did so, scratching himself from the knee towards the body, when the medical expert showed that the tear had been produced by nails, or at all events some sharp body, acting from above downwards in the direction of the knee, as was shown by the pointed fragment of epidermis projecting upwards from the lower end of the wound. The expert's hypothesis is that when the assailant approached one of his victims, with the weapon in his right hand and with his right side next her, she inflicted the injury with her nails. Questions of blood-stains on clothing have frequently formed important evidence in murder trials; but the present is probably the first instance of an ingenious plan having been adopted to escape clothing stains, and of its being defeated by an accident developed by the acuteness of the medical expert. Pranzini was convicted, without extenuating circumstances, and was sentenced to death by the guillotine.—*Dublin Journal of Medical Science.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.—We regret to notice that the *Journal of the American Medical Association* has not the courage to refuse to publish what are known as "reading notices," or puffs in the reading pages of wares advertised in the proper advertising pages. It certainly would seem reasonable to expect that a magazine supported by a species of forced contributions from the members of the Association would hold to a strict observance of high principles in medical journalism. Six months ago, the *Pittsburgh Medical Review* called attention to this matter, and it is painful to find that the editor-in-chief of the *Journal* of the Association cannot prevent what we feel sure he must deplore.—*Med. and Surg. Reporter.*

CONTEMPT OF COURT.—Of all the curious reading that we have enjoyed for some time, we think that afforded by a communication from Dr. F. E. Stewart to the current number of the *Druggists' Circular* certainly caps the climax. Dr. Stewart attacks the recent decision of the United States District Court in the matter of the suit of Battle & Co. against the Grosses (Daniel W. and Edward Z.) for infringement of their copyright of Bromidia. He declares that the decision is not final or binding, and advises the Grosses and druggists generally not to pay any attention to it. Dr. Stewart thus puts himself in contempt of the United States Courts, and advises others to place themselves in the same foolish and dangerous predicament. The queer part of the matter, however, is that every reason which he advances against the validity and justice of the decision is the strongest possible argument in its favor, and the reader must be obtuse indeed not to see that it is so. This view of it was evidently taken by the editor of the *Circular*, who says: "While giving Dr. Stewart's argument publicity on account of its novelty, we think it proper to remind pharmacists that they are bound by the decision, so long as it is allowed to stand," which advice is good sound sense, like pretty much everything that emanates from the editor of the journal quoted.—*St. Louis Medical and Surgical Journal*, January, 1888.

Fainting and Syncope.—The common practice of raising fainting persons to a sitting or upright position is often sufficient to destroy the spark of life which remains. The death of an eminent English statesman, a short time ago, gave opportunity to the coroner for emphasizing this fact, and of pointing out how much more reasonable and sound it is to keep such persons in the prone position while restoratives and local means are adopted to enable them, if possible, to regain consciousness.

EDITORIALS.

When we take a retrospective view of the march of science for the last half century, we stand positively appalled at the vast track left behind, and the dim and limitless future stretched before us. Within this period, time and space have been practically annulled, and the feats performed before us every day can only be likened to the marvellous transportations told of in the "Arabian Nights." Who would have believed that we could converse with friends a hundred miles distant, span the ocean itself with a wonderful chain, link continent to continent, and discuss over our morning meal the night's happenings with our antipodes. What has brought about this wonderful change of affairs? The Latin sage was right in saying that times change and we change with them; but never before in the history of the world has so much been wrought in the same time.

In looking for the cause of these things, we can observe only an unusual quotum of deep thinkers and close observers, who have utilized the experience of their predecessors. The observation of facts has been the groundwork of all science in the beginning; the ancient philosophers deduced from well-recognized facts laws that could be applied to similar circumstances. But it was not till Francis Bacon appeared on the scientific horizon, that it became possible to predict the discovery of facts; and although his predictions of the future course of science were unverified, his brilliant method of thinking gave an impulse to scientific inquiry that will perpetuate itself through all time. The history of science from its birth has given proof of the seemingly unreasonable tendency of the masses toward conservatism; this conservatism has taken the stand of outraged intelligence, and it found its vent in former times, not infrequently, in imprisonment or corporeal punishment. We cannot but recall the painting of that famous Italian mathematician, who, though confined to the limits of a narrow cell, yet soared in mind through his prison bars, and traced on his floor the wondrous scheme of the firmament. The resistance to the discoveries of science has perhaps been fostered by the fact that it has moved step by step; that hypotheses, suggested for the explanations of things, have been in many cases ultimately cast aside. It seems quite difficult for many to see that hypotheses are only scientific scaffolding by means of which we can climb to another and a higher plane, and from there view that which has been passed, and get a better view of that which lies beyond and above. The great *trilogy* of science, the molecular constitution of matter, the conservation of energy, and evolution, have not been the result of a wave of the magician's wand, nor have they sprung, Minerva-like, full-panoplied from the brain of any god, but each has been obtained by the employment of observation and the use of hypotheses. From the history of the past we should not look for absolute accuracy in the present. The "germ theory" of disease presents an illustrious example of the obstinacy with which progress is opposed, and reasonable hypothesis accepted for the explanation of known facts. Look from its incipiency, when microbes were discovered in decomposing organic matter, to the present time, when it has been constructed into a reasonable hypothesis, and one will see opposition marking its every step. Although causal relationship cannot be traced between microbes and disease, save in a few instances, these positive cases are strong presumptive evidence that further investigation will bring us more and brighter light. It is perhaps recognized by all scientists that gonorrhœa, mouse septicæmia, anthrax, and tuberculosis are due to specific germs. Before germs were recognized as causes of disease, it was customary to speak of specific causes for them. This term has an indefiniteness that is not compatible with the present status of the hypothesis. Under any circumstances the "germ theory" enables us to cast aside a meaningless mysterious term and to substitute for it one that signifies a living entity. Having then a living entity to deal with, our therapeutics are rendered intelligent. As the hypothesis was on the verge of being accepted, another difficulty was presented in the discovery of ptomaïnes—an alkaloid begotten in the process of microbic multiplication. The question arose as to whether ptomaïnes, or bacteria were the cause of disease. It is not our purpose to discuss fully the question as to whether it be ptomaïnes, or bacteria. Whenever found the two seem to be so intimately mingled that it is practically impossible to separate them; the presence of ptomaïnes necessitates the presence or the former existence of bacteria. To suppose that ptomaïnes alone cause diseases, is not to recognize infection. As a matter of fact, ptomaïnes are not found without bacteria; and in the nature of things, bacteria cannot multiply without the production of ptomaïnes. If ptomaïnes alone be accepted as causative elements in disease, each case should be an intoxication, and infection does not exist; epidemics would then be converted into *endemics*. Now it is a fact that infection also exists, and this can take place only through multiplication of a kind. Multiplication here implies progeny, and, accepting the dictum, *omne vivum ex ovo*, we must conclude that infectious diseases are the result of the birth of living entities; and since the only living entities with which we are acquainted in disease processes are bacteria, it would seem probable that bacteria are the cause of infectious diseases.

We would not be understood as decrying adverse criticism. This has been one of the evils that has compassed good. Criticism engenders inquiry and eliminates the false from the true, if it be fairly pursued. Our mistakes are usually seen in clear light when shown us by others. Difficulties cannot be intelligently met and overcome unless clearly pointed out.

The "germ theory" of disease is far from perfect, and we can hope for perfection only by weeding out the inconsistencies.

That germs are found in myriads in the alimentary canal and elsewhere, during physiological action, is recognized. That germs, under such circumstances, cause no ill, is negative proof. We look for trouble only when the power of resistance of the parts has been diminished. Who of us has not in all probability swallowed and inspired germs of many infectious diseases, and yet gone about unscathed? Probably the proper soil alone was lacking; let that be furnished, and the process will be set on foot.

No one can deny that the finger of wisdom points to prophylaxis as the future treatment of disease. Battling with an unseen foe, we do not know which way to turn our forces. Face to face with him, the chance of victory is more probable.

Rob us of the germ theory of disease, and medicine will have retrogressed to the position it occupied thirty years ago, and surgery will have lost its charm.

Seeing that the theory has gained with investigation, it is highly improbable that it will ever be completely cast aside. By means of it we have climbed to a higher point; let the mistakes of it be thrown aside, as scaffolding that has served its end. The incomparable good that has been wrought by it, can only be known by practice or reference to comparative statistics.

To the great Joseph Lister there should be reared a monument more lasting than brass, more durable than marble.

STATE CARE FOR THE PAUPER INSANE.—There can be no question that the condition of the insane in many of our county poor-houses, thanks to the organized and individual efforts of the humane, and to a more enlightened public sentiment, is much improved at present, as compared with what it was a few years ago; but those who are familiar with the management of both the State asylums and of the County poor-houses, are perfectly aware of the fact that the care furnished the insane by the State is still vastly inferior to that furnished by the counties. Convinced, therefore, by the careful personal observations and investigations of its members, the managers of the New York State Charities Aid Association have now undertaken a very important reform, in the introduction into the Legislature of a bill providing for State instead of County care for the pauper insane; and it is earnestly to be hoped that the medical profession throughout the

State will take an active interest in the matter, and exert its utmost possible influence in securing the adoption of this Act.

Drafted by a member of the Association's Committee on the Insane, Theodore W. Dwight, it comprises the results of an experience of sixteen years, of visits to the insane in County poor-houses and City almshouses by its visitors, and of many years of study of the lunacy legislation of this and other States, and of other countries, by the Committee on the Insane of the Central Association. The measure has also been submitted to, and has been approved by experts, in the care and cure of insanity. It represents the views of the State Commissioner in Lunacy, as expressed in his annual reports to the Legislature, and is also in accordance with the advocacy of State care for the insane, to be found in the annual reports of the State Board of Charities.

The bill provides for the gradual transfer of the insane, both acute and chronic cases, from County poor-houses and City almshouses into the care of the State. Its prominent features are as follows:

1. The districting of the State into as many asylum districts as there are State Hospitals (or Asylums) for the Insane.

2. The reception by the State Hospitals of all the pauper insane, both acute and chronic cases, from all the poor-houses and almshouses of the District to which the State Hospital belongs, at a uniform weekly rate *per capita*, charged to the Counties, for each pauper insane person so received, whether an acute or chronic case, of $1.50. This payment includes clothing and traveling expenses. An attendant trained in the State Hospital for the purpose, will be sent for and will accompany the insane person to the State Hospital.

3. The erection on the grounds of the existing State Hospitals, of a number of inexpensive detached buildings, sufficient to provide suitable accommodations for the chronic pauper insane now in the poor-houses and almshouses of this State, at a cost not to exceed $2.50 *per capita*. These buildings to be erected, if possible, within one year after the appropriation is made.

For the provisions which give effect to the above, the reader is referred to the bill itself, which is too long for insertion here. It will be noticed that the Counties of New York, Kings, and Monroe are excepted from the provisions of the Act, and this is because it is believed that further legislation is needed to suit the special conditions of those counties.

The managers of the State Charities Aid Association have issued a circular to their various county visiting committees, urging them to secure the co-operation of the press, the pulpit, the county authorities, and their representatives in the Legislature, in securing the passage of this bill; and in this connection they say, very truly, that it is well-known that the counties do not propose to give the same character of care to their pauper insane as that given by a State Hospital, with its staff of alienist physicians always in attendance, its schools for training nurses, its large force of attendants, its various organized systems for occupation, instruction and amusement. This is impossible of attainment for any county at a weekly cost *per capita* of $1.50. The expense of new or improved county buildings, and of a larger number and higher grade of attendants, which an advanced and enlightened public opinion now demands for the care of the insane, these two conditions alone—irrespective of maintenance and medical treatment—will impose a heavier burden on the tax-payer of the county than the additional increase of his State tax required to perfect the system already established by the State.

The following figures will more fully exemplify the above statement: Of the sixty counties of the State, all, with the exception of New York, Kings and Monroe Counties, are obliged by law to send their acute pauper insane to State Hospitals, at a weekly charge *per capita* of from $3.75 to $4.30. Thirty-eight of the sixty counties of the State are also obliged, under existing legal provisions, to send all their chronic pauper insane to State Asylums at a weekly cost *per capita* of $2.25. It is thus apparent that to substitute for these figures a uniform weekly charge to the counties of $1.50, the same for both acute and chronic cases, is greatly to the financial advantage of every county embraced in the provisions of the proposed Act. And this is even more apparent when it is considered that the increased State taxation, which alone makes such a reduction possible—for it is not proposed to lower the standard of care given by the State—will be borne largely by the City of New York, which already pays over 40 *per cent.*, or nearly one-half, of the entire annual appropriation made by the State for its State Hospitals.

Exclusive of the insane in the three counties specified, there are about 2,000 insane persons now scattered in the various poor-houses and almshouses of this State. To erect the buildings required for their accommodation on State Asylum grounds, an appropriation of about $500,000 would be necessary. The State has already appropriated over $6,000,000 for the better care of its pauper insane, and it is believed that the Legislature will not refuse the additional half-million asked for to carry on and complete the humane policy, inaugurated and adopted by the State of New York nearly fifty years ago, for the care of this most deeply afflicted class.

To provide food and clothing alone is the first, but also the lowest, step in the care of the insane. They should have the best medical treatment, the highest grade of attendants, and untiring efforts, through the incentives of occupation, instruction and amusement, to kindle the smouldering spark of reason into life, or to surround those incurably ill, with every alleviation their unhappy condition makes possible. Our State Hospitals, whatever further advance they may yet have to make, represent to-day, the very best standard of care for the insane thus far reached in this country.

At the recent meeting of the New York State Medical Society the treatment of the insane was taken up, in accordance with a suggestion made in his opening address by the President, Dr. A. L. Loomis, who stated that some tendency was being manifested at the present time to create county asylums, a practice which experience universally condemned. A special committee was thereupon appointed, who made an excellent report, the concluding portion of which was as follows:

"For the proper classification and treatment of the insane more means are required than for the patients of general, or even other special hospitals. Institutions for the insane, therefore, demand medical experts as superintendents, nurses trained in the general care of the sick and thus in the special care of the insane, schools for the physical and intellectual training of the insane, for the practice of out-door and in-door industries, and many other appliances.

"The Medical Society of the State of New York expresses, therefore, its objections to any plan or law which in any way looks to the return of the insane to the county poor-houses, as being unscientific and inhumane, and expresses its conviction that those institutions, like the State asylums, which have boards of managers accountable to the State government, and also to the public, are best adapted for the care of the insane poor of the State."

This report, it is gratifying to note, was adopted; as was also a resolution to the effect that the report be sent to the Committee on Legislation of the Society, with instructions to use it in its discretion, in the Legislature and elsewhere, to further the objects in view.

CONDITION OF THE CROWN PRINCE.—We have refrained for some time from any mention of the case of the Crown Prince of Germany on account of the uncertain and contradictory non-official reports that have come in from all sources. In our last reference to the case, we stated that the status at that time was apparently favorable. A piece of necrotic tissue has been more recently coughed up from the lungs and submitted to Virchow for examination. As regards malignancy, the result of the examination is negative. Owing to a great difficulty in breathing, it was determined by the attendant physicians to perform the tracheotomic operation. It was performed by the first assistant of Bergmann, Dr. Brahmann. Mackenzie was present, though Bergmann was not. The operation was performed under chloroform, in twelve minutes. Great relief in breathing was experienced after the operation.

The case is said to be progressing favorably, and the larger metal tube has been removed. At the Imperial request, Sir Morell Mackenzie has made an official statement of his opinion. He has reviewed it from its incipiency, and has concluded by making negative statements.

He says, there certainly exists a chronic interstitial inflammation of the interior of the larynx, together with perichonditis. That this condition may exist independent of cancer, though as a disease in itself it is rare. The symptoms of the affection at first all pointed to benignancy, and, when the piece of tumor examined by Virchow was shown to be *non*-cancerous, this probability seemed greatly strengthened. The subsequent clinical features of the disease seemed to warrant a plausible suspicion of malignancy. In view of the fact that no cancerous characteristics have been detected in any portions of the tumor that have been examined, and in view of the fact that such a condition as at present exists may occur in non-cancerous processes, Sir Morell wisely adopts the middle course of saying merely that the case has not been shown to be one of a malignant nature.

Although this is not a definite opinion as to the malignancy or benignancy of the process, it must be accepted as a clear and logical statement of the case, and is not by any means lacking in a certain diplomatic ring.

As long as the indications for treatment are met properly, we cannot see why any one should be compromised with reference to an opinion, provided the microscopic examininations remain negative. The not-finding of histological cancer characteristics is negative proof. The finding of them must be accepted as positive proof. At the time of writing, the condition of the larynx is said to be improved—presumably owing chiefly to the beneficial effects of the tracheotomy.

ELECTROLYSIS IN THE TREATMENT OF LACHRYMAL OBSTRUCTION.—We know of no affection amongst eye diseases that is apparently so easy to treat and cure, and that yields such uniformly unsatisfactory results, as dacryo-cystitis with its sequences. Unfortunately, so alluring is the temptation to treat this affection, that many not-specialists cannot keep their hands from it. It is the first thing that the ophthalmalogical tyro attempts, and it usually constitutes the first of his failures. The patients, disgusted and pained beyond measure, forswear any further consultation, but the epiphora remains to tell the story. The false passage through the soft parts, or the fractured lachrymal bone, being covered by nature, remain unknown save to the patient, unless the operator has been so unfortunate as to carry infection along with his wandering probe.

The passage of a lachrymal probe is not an over-difficult matter when the instrument is small, the character of the parts little changed, and the hand of the surgeon skillful. But let there be swelling with tenderness, or strictures bony or ligamentous, at the mouth of the sac or in the canal, and the correct introduction of a probe demands skill and commands admiration. The action of a distinguished French clinician comes to our recollection. The patients were wont to enter the room holding their probes in their hands. When no obstruction existed the entrance and insertion was effected with no little *éclat;* but whenever a case of difficulty presented itself, after a few ineffectual attempts and slight local derivation, the patient was relegated to the assistant.

Any measure that liberates us from this painful means of treatment should command our attention.

The *British Medical Journal* of Dec. 24th contains a description of the method of treating lachrymal obstruction by electrolysis. To say the least of it, this is a novel procedure.

A battery composed of a large number of cells is required. The cells should be arranged "in series." From two to eight cells is the strength usually required. If a galvanometer be introduced in the track of the current, the strength of from two to four milliampères is usually sufficient (one ampère—power that will decompose .00142 grains of water). A platinum probe fine enough to enter the punctum and pass down the canaliculus is used. This should be attached to the negative pole of the galvanic battery, and should be fitted with a catch, so that the current can be made and broken at will. A metal plate, covered by sponge saturated with salt water, should be attached to the positive pole. The latter is placed on the back of the patient's neck, the needle inserted into the punctum and thence pushed into the duct. No anæsthetic is used. The operation usually lasts thirty seconds. A slight burning sensation is experienced, but can be easily borne.

At the end of twenty or thirty seconds a froth oozes out of the punctum, and the probe can be moved with ease in the duct. If the needle has been attached to the positive pole by accident, there will be no relaxation of the grasp on it, nor will any froth appear at the punctum.

A slight swelling and redness usually remains in the region of the inner canthus for an hour or two. It is claimed that the size of the punctum and the calibre of the canaliculus is increased by the treatment.

This method commends itself to us especially in that it permits the passage of a small probe, and apparently destroys the strictures without lacerating surrounding points. Up to the time of the report, the cases had all progressed well, the lumen of the duct having been increased in all.

The originators of the treatment, Dr, W. E. Steavenson and Mr. W. H. Jessop, do not consider that sufficient time has elapsed to draw definite conclusions.

THE COMMITTEE OF STUDENTS FOR THE MEDICAL COLLEGE OF VIRGINIA request the Legislature to exempt graduates of State Colleges from this examination.

The Virginia State Board of Medical Examiners, through its representatives, advocates compulsory examination of all applicants.

We are in receipt of two pamphlets concerning the State Board of Medical Examiners for Virginia, the one signed by a committee of students, representing the students of the Medical College of Virginia; the other by H. Gray Latham, M.D., and Hugh T. Nelson, M.D., president and secretary respectively of the Virginia State Board of Medical Examiners.

In considering the question as advocated by the authors of the two pamphlets, one cannot help being struck by the fact that each has presented his side of the question clearly. Both sides seem to be in favor of a State Examining Board. The main point is as to whether the graduates of Virginia colleges should be made to run this gauntlet.

The protection of home industry and enterprise is a sentiment which should be heartily commended, but it seems that circumstances alter the case in this instance.

That a great number of States support this principle in the matter of Medical Examining Boards, is no reason why Virginia should follow in their steps.

Are the medical colleges of one State so far superior to those of others that its graduates should be exempt from the same test that is demanded of the graduates of other States? It may be the case in a few, but, in the nature of things, it cannot be thus in all. No! A test that is fair for one is fair for all. But the committee of students accuse the Examining Board of partiality. This is a serious matter. We believe the Board to be impartial, but we recognize the fallibility of all men, and acknowledge the warping influence of prejudice when it exists. The precautions taken by the Board—the system by which an applicant signs his number and not his name—seem (practically) to exclude the possibility of collusion on the part of the Examiners. We desire to put ourselves on record as favoring the examination of *all* applicants who apply for license to practice medicine and surgery in the State of Virginia, or in any other state.

We think the reasons offered why the examination should be taken out of the hands of any three appointees in a congressional district and relegated to a fixed committee to meet at regular times and set the examinations, are potent and convincing. We would, however, suggest that one at least of these sittings occur about the commencement of the vacation of the colleges. This would save time and money to the applicants, and the necessity of extra preparation could thus be avoided. It is natural to suppose that such an intelligent body as the Medical Society of Virginia will appoint proper men for the examining board. Nevertheless, they may not do so. It is intended as no approbious reflection when we opine that not every member of the Virginia Medical Society nor every member of *any other medical society* is capable of setting a proper and equable examination. It seems to us advisable to appoint an Examining Board of five. Two to be selected from the Faculty of the University of Virginia, two from the Faculty of the Virginia Medical College, and the fifth from the medical profession of the State at large—one who has never been connected in a professional capacity with either college. Those who are inclined to take a pessimistic view of the matter, may say that the fifth examiner might be induced to show partiality. Absolute proof alone could convince us of such a possibility. We heartily commend young men who educate themselves, and gladly recognize their merit and courage. But a certain standard of knowledge must be attained before they can rank as intelligent physicians.

Many of the answers given in the papers show a most lamentable condition of ignorance on the part of some. When we recognize the fact that medical men constantly hold human life in their hands, such answers as "60 grains" for the dose of atropia sulphate positively alarm us.

The mothers of Virginia would be in a deplorable condition, attended by men who do not know what placenta prævia is.

But we wish to offer our disapprobation of some of the questions propounded by the learned Board. We remember one of the first examinations on chemistry, which we feel sure could not have been answered to the satisfaction of any Board, save by an expert in chemistry and metallurgy. It is grateful to see, however, that such questions are becoming rarer. A teacher of medicine would never have propounded such questions to a medical student. The statement made, that since the facilities for studying medicine clinically have been increased, the present graduates of any institution are far better qualified to practice than the graduates of the same institution in the past, while probably true in many instances, is inconsistent and has a disintegrating effect upon the validity of the argument for a State Examining Board, that may be reckoned in milliampères. It is to be regretted that the committee for the medical students of the Medical College of Virginia should consider medicine an art to be "studied and practiced solely for the sake of profit and gain." Comment on this point is unnecessary. We are glad to see that the House Committee of the Legislature has reported, almost unanimously, *adversely* on the petition of the students of the Medical College of Virginia, and *favorably* on that of the State Medical Examining Board, as endorsed by the Medical Society of Virginia.

A CURIOUS AFFECTION.—A contemporary has called attention to a curious affection, known as "head-drop," the symptoms of which have been detailed by Dr. K. Nakano in the *Sei-I-Kwai Medical Journal*, Japan: prodromes headache and mental uneasiness, with sudden, seeming paralysis of muscles of back of neck, so that the head falls forward on chest; congestion of eyes, with double vision and mydriasis; tongue stiff; speech slow; swallowing difficult; muscles of back very weak; locomotion performed with difficulty; at times legs paralyzed and anæsthetic; urine occasionally shows traces of sugar.

Duration of attack: few hours, weeks or even months; disease apt to recur; treatment unsatisfactory; symptoms disappear of themselves; apt to come on when one is hungry. In such a case will be cut short by a hearty meal. Dr. Nakano regards the affection as of malarial origin. Disease seems to be restricted to damp valleys. Attacks men more frequently than women, though reasonable per cent. of the latter are at times affected. Occurs at all seasons, but elects the spring. Bad water said to exist in the districts where the disease is prevalent: not contagious nor epidemic, but has been known to attack several members of a family in a short time. "Those who have suffered from frank attacks of malarial fever do not appear to be subject to head-drop." Prognosis good. No pathological lesion has been noted, though the symptoms point to the spinal cord as the possible seat of the cause.

Perhaps some of the readers of the JOURNAL who live in malarial districts might throw some light on this subject.

THE attention of the subscribers is called to the very large amount of original matter, in this number of the JOURNAL. Rarely, if ever, has it been the case that any journal has presented to its readers six fine original articles in one issue. It is well to mention in this connection that a monthly journal has a great advantage over a weekly, in being able to publish in one issue so many papers of classical value. In order to give the subscribers this unusual treat however, several departments have been omitted and others curtailed ; they will, however, be just as welcome in the April issue. Among the interesting articles set aside at the last moment for want of space is one on Cocaine poisoning, by Dr. Mattison ; but it will appear in the April number.

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ORIGINAL ARTICLES.

ARTICLE I.

Hypnotism in some of its Medico-legal Relations.

By John J. Reese, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania.

The recent researches of MM. Charcot, Luys, and other investigators in this particular field of neuro-pathology, have reawakened the interest of the medical and scientific world in this somewhat neglected subject. The perusal of an able and interesting monograph on "Hypnotism and Legal Medicine" in the *Archives de l' Anthropologie Criminelle et des Sciences Pénales,* 1887, by Dr. Ladame, has induced the present writer to look somewhat more particularly into the medico-legal aspects of the subject, especially as this application of it is altogether novel in our own country.

There was formerly—and there still exists to some extent—much prejudice in the minds of the profession against anything bearing a resemblance to the so-called *Mesmerism* of the last century. Connected as this undoubtedly was, in its early history, with much that was purely empirical, and surrounded with mystery and fraud, and often employed for sinister purposes, it is not surprising that it should have been regarded with suspicion and distrust.

The remarkable progress made within the last quarter of a century in the investigation of the nervous system has given a new impulse to this particular line of research, more especially in France, a country which has never lacked some ardent and enthusiastic students of these supposed mysteries. Among the present cultivators of this branch of neuropathic science, M. Charcot and his distinguished confrères stand deservedly prominent. The experiments performed by these gentlemen on certain patients of a highly hysteroid temperament do certainly exhibit, to say the least, very curious results, which *seem* in some measure to confirm the old mesmeric notions. At all events, the hypnotic condition, or *hypnotism,* has come to be admitted, at least in France, as a recognized state, into which individuals of a peculiar nervous temperament can be thrown by certain other individuals possessing (probably) a different nervous organization, by the simple act of the will of the latter, and entirely irrespective of the volition of the former. The further peculiarity of this condition is, that the will of the operator may be so powerfully impressed upon the subject (the *somnambule* or *hypnotic*) as to compel the latter to obey it implicitly, causing the person to perform certain actions, although these may be of a painful or distasteful character, and even to commit deeds of violence, or of otherwise criminal nature.

This latter fact brings the matter within the domain of legal medicine; and it has very properly attracted the attention of the legal physician to the consideration of a most important practical question: viz. how far is a hypnotized person legally responsible for the commission of a criminal act, that he or she may have perpetrated while in the hypnotic state? In fact, the inquiry is identical with that which is constantly presented to us in cases of real or supposed insanity; for the condition of the hypnotic is, for the time being, strikingly analogous to that of the insane: both have lost control of their normal will-power; both are influenced by an extraneous hallucination which they are unable to dispel.

A careful consideration of this subject will suggest matters of grave, practical import; and this too quite irrespective of all theorizing as to the peculiar *nature* of the hypnotic condition,—whether it be a mere exalted hysterical state, or some other unexplained condition of the nervous organization.

One of the most interesting and important points connected with this subject is the fact already adverted to, that the 'hypnotizer' can impress his own 'suggestions' upon his subject, even if these be of a criminal nature. Dr. Bernheim, of Nancy, alluding to these *hypnotic, criminal suggestions*, relates the following experiment, performed by himself: He hypnotized a subject, and then strongly "suggested" to him that he would find, in a certain room of a house, on a stand, a silver ornament, which he would take, and put into his pocket; and that he could not avoid doing this. And so it actually came to pass: for on awaking, the man, acting under the influence of the "suggestion," entered the house, and the room designated; saw the silver ornament which had been purposely placed there, hesitated a moment, and then saying *Ma foi, tant pis*, he committed the theft by putting it into his pocket!

Of course, it might be alleged that all this was a deception:—either there was a collusion between the parties, or it was nothing more than an ordinary evil suggestion injected into the mind of a possibly not over-scrupulous person, in the form of a strong temptation to commit the criminal act, under favoring circumstances. The character of the experimenter—professional and otherwise—forbids the idea of collusion; but we must admit that the so-called "suggestion" seems to be only a more pronounced form of an ordinary mental impression of a similar criminal character made in the waking state, either through the direct suggestion of another person, or, as in the language of the old English indictments for murder by poison—'under the instigation of the devil.' In truth, they are only another form of *mind-impressions*—impressions made by one mind upon another, and leading to very positive actions, such as we witness every day, especially in the case of persons of extreme credulity, or of easy, unsuspicious nature, who too often thus become the dupes of stronger-minded, designing men.

There can be no doubt, as has been remarked, that an hypnotic thus impressed by "suggestions," may be led to sign papers, such as contracts, cheques, promissory notes, etc., in favor of the hypnotizer; but whether these would hold good, would probably have to be determined by a subsequent trial before a court and jury. The whole question would turn upon the responsibility of the individual, while under the hypnotic condition. From numerous examples given by different experimenters, there can be no doubt of the fact that crimes of a serious nature may be committed by persons while hypnotized, through such outside suggestions (*par suggestions étrangères*) made by a skilled and determined operator.

But there is another phase of this mental condition still more remarkable, and one which has a special medico-legal significance in connection with false testimony borne in courts of justice. The experiments of M. Bernheim show that it is quite possible to develop in many somnambules mental impressions, amounting to actual convictions, of events believed to have occurred, and to have been witnessed by the hypnotic in the distant past; which events, however, have had no real existence, but have merely been strongly "suggested" to the mind of the suject. These singular impressions have received the name of "retroactive hallucinations" (*hallucinations rétroactives*), from the fact that they are retrospective in their nature. Says the above named authority: "It may be suggested to them, that at a certain mentioned time in the past, they have witnessed such and such a deed, and had performed this or that particular act, the image of which impressed upon their brain appeared like a living reminder, so powerful as to assume in them an absolute reality." He recites the following curious experiment: "One of his patients had mentioned to him that she had for neighbours in her house a family consisting of a father, mother, several little girls, and an old man, a boarder. The professor then said to her: 'On the 3d of August last (four and a half months ago) you were entering your house, and while on the first floor, you heard cries proceding from a room; you looked through the keyhole, and beheld the old man committing violence on one of the young girls. You saw it all, but you were so much affected that you entered your own room and did not dare to speak of it to any one. When you are awakened, you will not think any more about it. It is not I who have told you this; it is not a dream, nor is it a vision that I have caused you during your magnetic sleep; it is a reality; and if justice should hereafter institute an inquest on this crime, you will tell the truth.' Having thus spoken, I changed the current of her ideas; I introduced more lively suggestions; and on her awakening, I spoke no more to her about it. Three days afterwards, I asked one of my friends, M.

Grillon, a distinguished lawyer, to question this woman, as if he were a magistrate. In my absence, she related to him the above facts in all their details, giving the names of the culprit and his victim, and the exact hour of the crime. She maintained her asseverations very decidedly; she said she knew the gravity of her testimony, and if called upon to testify before the court, in spite of the unpleasant emotions she would experience, she would speak the truth, since it must be done; she was ready to swear before God and man. Making me approach her bed, after her deposition, the lawyer, acting the part of a magistrate, caused her to repeat it in my presence. I asked her if this was indeed the truth; if she had not been dreaming, and if it was not a vision like those which I was in the habit of producing during her sleep; I tried to make her mistrust herself, but she maintained her testimony with an immoveable conviction."*

From such an illustration as the foregoing, it can be readily understood how easily a person susceptible of the hypnotic state, could be made to give a false testimony before a court and jury—yet all the time believing it to be true,—which might most materially affect the issue of the case.

What is termed *suggested forgetfulness*, or *negative hallucination* is the opposite of what has been described above. It has reference to the power of the hypnotizer "to cause his subject to forget during his sleep things that have had an existence in the past. He assures him that he has seen nothing, felt nothing, and heard nothing; he makes him forget the name and the appearance of persons, their actions, their conversation, and everything that he might be interested in making disappear from his memory." Here, likewise, it will readily be seen how such an abnormal neurotic state may seriously interfere with the cause of justice, in a manner just the opposite to that we have been discussing, namely by the individual no longer remembering anything about himself, his life, or his actions, during a certain period of his existence. It is easily seen how useful such a resource might be for a criminal whose interest it was to render himself invisible, or to get rid of a troublesome witness.

The practical question now presents itself: How to proceed judicially in a case of alleged hypnotism in a criminal? Suppose, for example, that it be a person who, while in the hypnotic state, had been induced by the "suggestions" of an evil-disposed hypnotizer to commit some criminal act—it may be the fraudulent signing of documents, or perhaps a graver offence, such as theft, arson, or even murder; or let it be one of those singular instances of "retroactive hallucinations" before alluded to, where the subject is led to bear false testimony before the courts through a perverted mental conception, having been induced to believe in the actual existence of events, and to testify to them with perfect honesty of purpose, but which all the while had no real existence, but were solely the result of "suggestions." Dr. Ladame's paper gives some rules on this subject which it might be useful to remember.

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* Bernheim, *Revue de l'hypnotisme*, 1re Juillet, 1887.

First, ascertain whether the person in question is really a hypnotic, *i. e.*, capable of being hypnotized; and here the selection of the *method* would seem to be of some importance, since we are assured that the same phenomena are not produced by diverse methods of operation. Hence it is advisable to ascertain what was the original method employed by the hypnotizer, and to practice that one alone in the experiment. If all the known methods fail to induce the hypnotic state, the subject may be considered a failure, or an impostor. But just here we should be cautioned by the experience of Charcot, Brouardel, Motet, and others, that there are certain hysterical phenomena that might easily be mistaken by the inexperienced for those of true hypnotism.

Next, it is important to remember that the hypnotic phenomena vary considerably in different individuals. "Some exhibit only a slight degree of somnolence—merely an inability to open the eyelids; others can be thrown into a state of 'suggestive catalepsy,' or of incomplete somnambulism, with persistence of memory on awaking; whilst others, in fine, will exhibit the characteristic signs of the three classic conditions of M. Charcot."

It is also proper to observe that all real somnambules do not necessarily exhibit corporeal or physical manifestations, such as the rapid contraction and dilatation of the pupils, the immobility of the pupil in certain subjects, the modifications of the general and special sensibility; and also of the respiration and circulation, as shown by palpitation of the heart, flushing, and congestion of the skin, hæmorrhages, etc. Certain hypnotics manifest only the mental phenomena, to the exclusion of those of a physical character. But although some authorities, and notably those of the Paris school, insist upon the corporeal or physical signs as the evidences of a genuine, and not of a simulated hypnotic state, yet there are others of probably equal weight who pay greater regard to the mental phenomena as affording the satisfactory proofs.

Having determined the *reality* of the hypnotism in any particular case, the next point is to inquire into the *degree* of influence that has been exerted by this condition over the actions of the individual. And here we must encounter the question of *irresistible impulse*, just as we are obliged to meet it in cases of alleged insanity. Numerous examples conclusively show, as we have already remarked, that hypnotized subjects do perform "suggested" acts with a perfect consciousness of the absurdity of their position, or even of the wickedness of their acts. Even while condemning the bad action, they are not free to resist the commission of it. This question of "irresistible impulse" is one of the most delicate in the domain of legal medicine, and great reserve should be exercised in determining particular cases. One feature of the crimes committed under such a "suggested" impulse is said to be the direct, straightforward, mechanical way in which they are accomplished. There would seem to be no hesitancy attending their commission.

But it might happen that some criminal, who is a hypnotic subject, places himself voluntarily under the evil suggestions of a hypnotizer, in the hope thereby to escape legal responsibility, and at the same time in order to acquire greater boldness and strength of purpose for his criminal deed. Of course, there will always be a conflict of opinions in the trial of a case of this kind, just as there is in other criminal cases where the plea of *emotional insanity* is urged as a bar to punishment, because relieving the culprit from all responsibility. But there is another factor in this question of responsibility in the case of a criminal hypnotic: How far has he consented to allowing himself to be operated on? If he has voluntarily thus parted with his liberty, he has certainly incurred some responsibility, since it is admitted that somnambules can, and do sometimes, resist "suggestions" which are distasteful to them.

As Dr. Ladame well remarks, "The possibility of resistance, more or less complete, in certain subjects to criminal 'suggestions' has an important medico-legal significance, which should never be lost sight of by the expert charged with such a case." This author believes that while *moral* responsibility may not be entirely lost in some of these cases, *legal* responsibility ceases, just as in a case of true insanity. We must, however, confess to a difficulty in discriminating between these two kinds of responsibility in cases of this nature. If the culprit, in either case, can be shown to have committed the crime entirely while under an irresistible impulse, without the will-power to oppose it, it would certainly seem logical to acquit him of *all* responsibility; but if he can be shown to be in any degree morally responsible for the guilty act, he should be held equally so in a legal point of view.

The possibility of such a case should suggest the greatest caution in regard to the question of responsibility of these somnambules. Certainly, the mere fact that an individual has committed a crime while under the influence of a hypnotic "suggestion" should not, of itself, exonerate him from all legal responsibility; but this is a question for a jury to decide; the legal physician is only required to prove that the accused is *hypnotizable*, and consequently that there is a possibility that he may have committed the alleged crime while under the influence of a "suggestion," received while in the hypnotic condition. The question still remains open whether the crime is to be ascribed exclusively to the hypnotic suggestion, or otherwise.

There are some other points connected with this subject that might be profitably discussed if time and space permitted; among others, the importance of caution and reserve in receiving the testimony of persons while in the hypnotic state; for although such persons do, as a rule, utter their real sentiments, still there may be a difficulty in distinguishing between what is genuine, and what may be the result of a retroactive suggestion unintentionally produced by the questioner upon the mind of the sleeper.

In taking leave of this interesting and suggestive subject, we may remark, in the words of Dr. Ladame, that "although there are real difficulties to encounter in the medico-legal examination of cases of hypnotism, these difficulties are not more serious than those which the alienist is constantly called upon to meet in his investigation of cases of mental disturbance."

ARTICLE II.

SPECIALISTS.*

BY H. C. VAN ZANDT, M. D., of Schenectady County.

The art of medicine, with all its kindred and allied sciences, embraces a wide field for investigation, and necessitates a vast fund of accumulated ready knowledge for the correct interpretation of its many phenomena, and the successful appreciation of its many methods. It is perhaps well that one standing on the threshold of the study cannot see very far ahead, or the vastness of the undertaking would appal and discourage him. It is with medicine as with all other sciences—the farther we progress, the clearer becomes the need of still farther progression; and through the avenues, which at first seemed to end in darkness, we may begin to discern the shadowy form of things far beyond our ken, until at last it dawns upon us that, while the possibilities of our scheme are unlimited, its probabilities are measured by our zeal, energy, and faithful devotion to its study.

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* Read before the N. Y. State Medical Association, September 29, 1887.

It is perhaps this idea of the far-reaching scope and range of our science which stimulated the notion that to be enabled to reach anything like the summit of attainment during the short space of a natural life-time, one must devote his energies to a part, rather than attempt to acquire the whole, of the science. A laudable desire to be master of what was proposed has led many to renounce the greater part of an art and confine their labors to some special department, not ignoring the general harmony of all the parts, but professing, by the proficiency reached in the several departments, distinctively to elevate the whole. Whether all the divisions in practice arise from this praiseworthy motive, or from a lack of energy to master the whole, and an intuition that it pays better to practise a part rather than the whole of medicine, I am in doubt, and can find no way of resolving that doubt ; but it is sure that the outcome has been so prodigious that now there is scarcely an organ or region of the body but has its special devotee, or a class of diseases but has its special professors and practitioners.

A well-to-do lady in Schenectady, having occasion to send for a physician, is reported to have prefaced the professional interview with the statement that the eminent neurologist, Dr. A., had taken charge of her brain and nervous system ; Dr. B., the celebrated physical diagnostician, had looked after her heart and lungs ; Dr. C., whose book on diseases of the liver had made him famous, attended to her digestive organs ; Dr. D., the distinguished gynæcologist, treated her uterine functions ; Dr. E., the renowned orthopædist, had been consulted about her joints and limbs ; Dr. F., the great opthalmologist, cared for her eyes and ears ; Dr. G., the leading dermatologist, prescribed for a cutaneous affection. "Why have you sent for me ?" asked the doctor ; "there is nothing left but the umbilicus. As my specialty is pathology, if you will have me summoned after your death, I will gladly make a post-mortem examination."

What may have been the first cause of the dividing and sub-dividing of practice, I do not know ; but I do know that it has reached nearly to infinitesimalism. I very much fear that its followers will become schismatic, narrow-minded, and eventually lose sight of the general good in their endeavor to measure everything in their pint cups.

I can readily conceive how a man, with a well balanced mind and a broad foundation of scientific and general knowledge at the outset, may confine his later labors to a portion of one science, and not be restricted in his vision or inquiries; but I question if there be not many who practice some specialty, who comprehend very little outside of their daily routine. Certainly the restricting habits and nature of their work would tend to lead them into such a rut unless they had been previously accustomed to broad views and an excellent practical knowledge of the whole field of medicine.

It is no complaining or fault-finding mood which suggests these doubts and queries, but an honest effort to weigh in my own mind the arguments and test the premises as to whether these divisions of practice into so many specialties are really a benefit or a hindrance to the advancement of our science as a whole. It is true that there are notable exceptions to this rut-running specialism—men whose liberal views, learned words, and good works, both in their own and other departments of medicine, whenever time allowed or occasion required, have been treasured by the profession; but that the exceptions are notable is the difficulty. They should be the rule, if there be anything in the theory that by restricting effort to a part, the specialist is able to climb higher and see farther than the general practitioner.

Statistics, as far as I have been able to collect them, show that most of the great strides our science has taken have been at the push of men from the ranks of the general practitioners—men who, from their large scientific knowledge of the whole field of our profession, were enabled properly to adjust and compute the factors which entered into the solution of the problem then in hand.

As well might one expect a number of workmen, who were each accustomed to make certain parts of some complex mechanism, without any general practical knowledge of the whole machine, to improve, develop, and extend its usefulness. It needs some one who comprehends the whole matter—who knows the value and place and work of each part, as well as the general laws of mechanics, who can survey the whole field, find the needs, see the wants—to develop, enlarge, and perfect the mechanism. A knowledge of any one part, be it ever so accurate, would never accomplish much for the whole.

Perhaps none of us can be very expert in many things, but is it not better for the general good to be moderately expert in several things than to be acutely so in only one?

This restricted thought, or work, is very apt to make those who follow it narrow-minded and intolerant. No clearer evidence of this is needed than the commiserating expression with which some of them look down upon the general practitioner from the self-exalted eminence of their several specialties.

Another idea has been forcibly presented to me from observation of some specialists' practice. "It is all grist that comes to their mill." No matter what the specialty may be, and no matter what may be the nature of the ailment presented by the patient, the strained effort is always to bring it somehow or some way within the pale of this specialty—to find a cause for all the phenomena in the organ or region treated by the specialist applied to; and, strange as it may appear, the grosser his ignorance, the more readily he accomplishes this to at least his own satisfaction. Not long since a case came to my knowledge in which a so-called oculist would have operated for strabismus in a child plainly ill with hydrocephalus. He saw the squint, but could not see beyond it; and a squint was all in all to him. Cases have been known to me, and no doubt to most of you, which have been treated by one specialist after another, each of whom assured the patient that the ailment was something within his special department, when, in reality, they were all wrong. Mistakes in diagnosis may happen to any one occasionally, but when they are constantly occurring they cease to be pardonable, and are certainly not calculated to exalt the status of the general profession, which has to bear all the sins of all the schisms.

There are several other circumstances connected with the practice of these specialists, which, to my mind, are very far from being conducive to the elevation of the profession, either in their tendencies or results; but I will not consume your time in dwelling on them.

If we are to encourage these divisions and splinterings, and allow the minor twigs, in spite of the axiom in relation to the whole or a part, to imagine that they are the trunk and we the branches, we shall soon have the sturdy oak of our profession split up into kindling-wood, and not much more significant.

We should not deprecate the pursuance of a definite line of study by earnest, honest men; but we should discourage the running off at a tangent of any rattle-brained person, who, having tried general practice for a year or so and miserably failed, immediately takes up some sub-department of medicine which his inclination may point out as alluring, and becomes a specialist. We all know that this is quite a common resort of unsuccessful general practitioners; and we ought also to know that such procedures are not calculated to lead to any very lasting scientific triumphs.

In these days, when an earnest effort is made to guard the portals of our profession from the entrance of unfit persons who might bring discredit upon it, it may be also wise to frown down the tendencies and practices, even of those within our ranks, which are destructive or hurtful. I take it that we are all trying to do what we can for the good of our profession, and therefore I may be pardoned for this rambling reference to an evil which may grow.

ARTICLE III.

Address on Medicine.*

By John Cronyn, M. D., of Erie County.

"As agriculture, to those who are in health, holds out the expectation of aliment, so medicine promises to the sick a recovery from disease:" thus wrote Celsus 1800 years ago, and so may it be written to-day, with this difference, that in both a more enlightened measure is used to determine their success. The *gourmand* requires his dishes delicious and many, the fulness of his desires being satisfied only in the filling of his stomach. The *gourmet*, more dainty, delicate, and capricious in his longings, makes his demands with equal assurance that he, too, will be gratified: and why not? Do we not see the hillside, the valley, and the fallow made tributary to their wants? The plough, the harrow, and the roller are to service put. The trench, the furrow, or the ditch is used, as best may accord with finest production of the food required. And when too frequent use of the once virgin soil necessitates a dressing, like an ill-conditioned ulcer, behold, at once, the fertilizer there: its fruit is forthwith seen, agriculture its promise keeps, and health moves on through aliment.

Does medicine do as well? If not, why? To give a history of the progress of medicine—adopting the chronological order into which it is most commonly divided, viz., from the earliest records we possess to the decline of Roman literature, from this period to the revival of letters, and from the introduction of the inductive philosophy to the present time, would no doubt, to many, be exceedingly interesting, if not profitable. It will be sufficient for my purpose, however, to but succinctly refer to a few of the characteristics of the earliest periods, and deal more in detail with subjects nearer our own time.

Mentioning the history of the science in its earliest records, it will suffice to remark that in proportion to the progress of civilisation, greater and more active means were being constantly invented for the cure or alleviation of diseases, or for the repair of injuries to which the body is ever prone. These were directed almost entirely by the observance of such consequences as appeared from natural causes, or were due to certain kinds of food causing an elimination of such peccant substances as were supposed to produce disease. And so, too, with regard to injuries, for at this early period the value of excluding the wounded part from the air, and of the application of graduated pressure, was recognized; and these means were used to serve their purposes as now, and might be called the ancient method of antisepsis. In France, Germany, Italy, and Great Britain, men of genius and learning were not wanting who put forth theory after theory, principle upon principle, and experience surmounted by observation. Under the ægis of one or the other leader were disciples in great numbers, who in their turn lived but to upset the doctrines of their masters, and, announcing something new, to fall like the others before the tide of advancing knowledge in philosophy and inductive reasoning, coupled, however, at all times with that ever present antagonism of opinion, begotten of hatred and envy, to be found nowhere else to the same degree as in the profession of medicine. He who may find time to consider, after the manner of the historian, the changing features of opinion and doctrine I have indicated, will discover that here and there those subjects of greatest utility as a basis of correct practice were found most prominent in the theories and speculations of this or that writer—his reasoning, experience, and observation having always in view "the promise to the sick that their disease should be removed."

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* Read before the N. Y. State Med. Association, September 29, 1887.

Coming to our own times, the conflicting opinions long in vogue embarrass and retard; for, unlike every other branch of science, our actual information does not increase at all proportionately to our experience; and, although truth is not to be attained in any science without much labor and research, yet for those willing to bestow time and attention it is for the most part attainable; or, if in the investigation it elude our grasp, the reason is manifest. In other sciences, too, when we enter upon an inquiry, or propose to ourselves any definite object of experiment or observation, we are able to say whether the result has been satisfactory, whether the end sought was reached. Not so in medicine, for there are many peculiarites necessarily connected with the subject which render it extremely difficult to appreciate the value of experiment and observation. Can anything better elucidate this than the changing doctrines and practice of olden time, to which I have before alluded, and the progressive changes due to that want of certitude, or common consent to the results of experiment, even in our own day? But a few years ago the whole medical world was divided in opinion as to whether the human constitution had undergone a complete transformation, or disease had changed its type, the bases of opinion being observation, experiment, and the experience of actual practice. The most potent agent in the therapeutics of our forefathers —bleeding—was no longer thought compatible with the cure of disease; stimulants, tonics, and food met with greatest favor in the philosophy of one party, while expectant patience, with nature's own efforts, seemed to satisfy the other. Did we have a change of type in disease, or that other transformation? Neither; but just then new light shone upon the scene: pathological inquiry solved the doubt, as much as might be for the time, and onward in its progress to certitude, must present medicine in a more scientific phase. Certitude, thanks to workers in every part of the universe, is being eagerly sought. The laboratory, the microscope, the test-tube, find interpretation for doubt or uncertainty in hidden or obscure disease; the dog, the cat, the rabbit, and the frog are made to contribute their quota to this fast acquiring certainty; and although one can see, read and hear, as of old, that satisfaction is not proved to all, the dissidents but add their mite to that truth that sooner or later must prevail, when medicine shall keep its "promise to the sick."

To physiological research, more than to any other, are we indebted for some of the greatest triumphs in modern medicine, reflex action, cerebral localization—marvels of discovery, utility, and application. Ere long the cause of, or the organs involved in, the production of fever will have been discovered, when no longer we shall grope in the dark, nor be governed by contradictory opinions, but shall have a clear and valid elucidation of the facts observed, through our knowledge of the physiological functions invaded by that uncertain or unknown quantity called disease. Pyrexia and hyper-pyrexia will be explained by laws proven to belong to the ganglionic system of nerves in a state of pathological perturbation; and this disturbance will be accounted for by recognizing the germ theory of disease, by consenting to a *casus belli* in the economy between the different tribes of bacteria (and thus prove the cogency of the Darwinian theory of the survival of the fittest), or by accepting the fact that the body, in a susceptible state, from a great variety of causes, receives through air or food, or generates within itself, some septic poison that interferes with the normal function of some special ganglionic centre, which readily resents the encroachment upon its duty, and repels with force of cold and heat the direful enemy. This, and much more, physiological experiment will bring about, and make more certain and useful that actively worked field of pathological research which has for its object a more definite explanation of the origin, propagation, and mode of communication of disease. In this effort no fault can be found, though laborers are many, work so extensive, and the lines of investigation, as well as subjects, widely different--not therefore the less interesting, on the whole. The value of this ardently cultivated department of medicine would, however, be greatly enhanced if there were a better consensus of opinion among the many workers. It would be a guide of greater certitude at the bedside, where the judgment should be without doubt, the action consequently wise, and the result satisfactory.

Notwithstanding that the data of physiological experiment indicate a great advance upon former times, being in possession of so many means of research not heretofore known, much greater results are expected of it in the future. It *must* establish the existence or non-existence of inhibitory centres, of trophic centres, of heat and other centres, of vaso-motor, constrictor-dilator nerves, exercising or not the functions now attributed to them through these or other centres of the cerebro-spinal system. So, too, pathology, which has so exalted an errand to perform, will be, *must* be, cultivated with a view to establish that consensus of opinion referred to, and so much to be desired. It is not enough that the school of biologists and pathologists asserts that all communicable or contagious diseases are due to bacteria and allied organisms: it must be proved. It is not enough that great and talented cultivators in this field have labored earnestly, and mayhap honestly, to discover the true theory of pathogenesis; that they have solved the difference between spore and germ; and have given us a classification of micro-organisms that to themselves may be of easy comprehension, but, to the large proportion of practical men, of no value because not proving such micro-organisms to be the source from which disease arises. Yet how loudly is it proclaimed in the general cry for antiseptics.

Assuming that this inquiry has been rather to ascertain the multiplicity of the tribes of cocci, bacilli, bacteria, etc., than to elucidate with any useful certainty the cure or prevention of disease, is it not necessary, is it not imperative, that they shall give us laws governing their doctrines that we can utilize? Of what avail that we recognize the tubercle bacillus, the cholera microbe, *et genus omne*, if we can make no use of this knowledge to keep our promise to the sick? An innocent swelling is threatened with some malignant metabosis: has pathological analysis pointed to the therapeutics of prevention? Here is the key to what is required of pathological investigation—to the end that the *materia medica* may subserve its purposes in the cure of disease, the *summa* of our calling.

Where does therapeutics stand in its relation to advancing time? The materia medica has undergone great changes; chemistry and pharmacy have altered the crudeness of the medicines of by-gone days; and pharmacology, though of recent growth, will displace empirical methods which, in all time, even to this present, have him who used them prudently most faithfully served, and supply instead the rational.

When, as we know how amyl nitrite the pangs of angina pectoris allays, so shall we know how digitalis regulates a weak and irregularly beating heart; how strychnia to the nervous system stimulus and tone doth bring; and phosphorous waste of its elements restores. Quinine—we know it ague cures, but how? Not yet a satisfactory explanation, though guesses are innumerable. Iodide of potassium and mercury, of deobstruents most potent—upon what principle and through what source we should positively know. The discovery of ether and chloroform might be considered chief among the evidences of advancing knowledge in this department, for as boon to man and beast no greater can be found; and so with many more. There are diseases, however, of which we learn a great deal through pathological histology, but know nothing of their appropriate medicines. This opprobrium of our art must disappear before the more accurate knowledge obtained through pharmacology, which now, like the other branches of medical science mentioned, is being cultivated with great hope of reaching a precision that will be hailed with delight by the practicing physician.

Having indicated a general progress in physiology, pathology, and therapeutics, from earliest time to the present, and pointed to the urgent necessity of its continuance, I might be expected to suggest a means to the fullest possible accomplishment of our desires. It is summed up in a few words: Select from the many who would study medicine those already trained in letters and the arts collateral. Inspire them with a deep reverence for their profession and a keen sense of its awful responsibilities; and impart to them, then, through fitted teachers, and for five long years, such knowledge of medicine as will enable them to further its highest development, so that "as agriculture, to those who are in health, holds out the expectation of aliment, medicine shall promise to the sick a recovery from disease," and keep the promise.

ARTICLE IV.

TREATMENT OF CONTINUED FEVER.

By WM. HENRY THAYER, M.D., Brooklyn, N. Y.*

In opening this evening's discussion upon the subject of fever, I will not undertake to criticise the scientific exposition of the production of animal heat by Dr. Flint, as the subject was thoroughly gone over at the January meeting; and it is undesirable that the time of this association should be devoted to the further discussion of a question which, from the changing views of physiologists through many years of earnest investigation, must be considered as still measurably unsettled; on which Dr. Flint himself found reason to modify his conclusions to some extent, between the reading of his paper at the International Medical Congress, in September and the January meeting of this association. It is enough for us, while following with interest the studies of the physiologists, and adopting their conclusions when clearly demonstrated, to take the view given by Dalton, as the sum of the experiments and researches of many physiologists, himself included: that the production of heat in the animal body and the regulation of its temperature result from an associated series of vital actions. Or, as Foster says, "the heat of the body is generated by the oxidation, not of any particular substances, but of the tissues at large. Wherever metabolism of protoplasm is going on, heat is being set free." †

In the treatment of continued fever, for which modern science has contributed many details, some of which will be considered hereafter, the management of the food and air are matters of prime consideration.

On the subject of alimentation, there is nothing to be added to what Dr. Flint has said, except that it will be interesting to compare the results of the method of liberal feeding now employed, with the starvation method of a former time.

About 1842 and for some years before, typhoid fever patients in the Massachusetts General Hospital were always put upon what was called "low diet," that is, water gruel, which was used exclusively until convalescence began. And this practice was typical of the general method in use at the time.

A comparison of the symptoms under the now prevailing use of a liberal milk diet with those of the water gruel period, shows a marked change in one respect, that may be fairly attributed to the change in diet: that is, the diarrhœa. Diarrhœa was an almost invariable symptom in the earlier time, and was often severe, and doubtless a frequent cause of death. Nathan Smith says, "I have never lost a patient, whose bowels continued constipated through the whole course of the disease." * At present diarrhœa is far less frequent and less urgent. Louis, in his Researches on Fever, published in 1834, reports 140 hospital cases, all but three of whom had diarrhœa; and the regulation diet was of the most meagre character, consisting of sweetened barley- or rice-water, whey, lemonade, and sometimes beef tea. Flint says,† "In the management of the disease (typhoid fever), my practice is uniformly, after the lapse of a few days, at farthest the first week, to commence the administration of highly nutritious aliment. The forms of nourishment which I have thus far selected, are the essence of beef, and what is known commonly as milk porridge." "The course I have pursued is to have the nutriment administered, not only irrespective of any expressions of desire by the patient, but without reference to his appetite, and even when taken with disgust. If the sense of hunger, the appetite and the taste are competent to govern the ingestion of food in a state of health, this is not true of continued fever." "Dr. Graves, of Dublin, remarks, that if he has had more success than others in the treatment of this disease, it is owing, in a great degree, to the adoption of the advice of a country physician of great shrewdness, who advised him never to let his patients die of starvation."

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* Read before the Kings County Medical Association, March 6, 1888.

† Foster's Physiology. 1879. p. 474.

An interesting contribution to this subject was published in the *Medical News*, December 17, 1887, in reports on the treatment of typhoid fever in the hospitals of New York, Boston and Montreal. In all of them a liberal milk diet is used, and in all of them diarrhœa is reported to be rare, and enemata are required to procure evacuations. The milk allowance in the several hospitals ranges from three pints a day to giving every two hours as much as the patient will drink. The reports are so interesting that I must quote what is said on these points.

In the New York Hospital, in Dr. Peabody's wards during the autumn of 1887: "Diet is of milk, patients taking generally from four to five pints daily. If the stomach is at all irritable, milk with lime-water, or peptonized milk is given. Some patients take beef tea well, and have from one to two pints of this daily in addition to the milk." "Laxative enemata are given every other day, if patients have no movements from the bowels; and in almost all of our cases this has been necessary, as patients have been generally constipated, diarrhœa being the exception rather than the rule during the summer just passed."

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* Medical and Surgical Memoirs, by Nathan Smith, M. D. p. 65.

† Clinical Reports on Continued Fever, by Austin Flint, M.D. 1852. pp. 297, 298, 299.

In St. Luke's Hospital, in Dr. Kinnicutt's wards, "rest, quiet, fresh air, and a very carefully regulated diet of mixed liquid food constitute the general treatment. Increased fever and intestinal irritation frequently have been observed to follow the ingestion of large quantities of raw milk, and in such cases a reduced amount of peptonized milk has been given." "Small enemata every other day are used to relieve constipation."

In Dr. Beverley Robinson's wards: "The diet is usually limited to milk during the duration of the fever. This is given to the patient every two hours, as much as he will drink." "Diarrhœa has not been frequent."

In the Massachusetts General Hospital, in Dr. Shattuck's wards: "Six ounces of milk are given every two hours. If this is not well borne, lime water is added, or the milk is peptonized; or, if there is no diarrhœa, animal broths are allowed." "In cases characterized by constipation, a large percentage during the past two years, a plain water enema is given every second day."

In Dr. Fitz's wards: "The diet is chiefly milk, as nearly four ounces every two hours as possible. If the milk is not well borne, it is pancreatized or mixed with lime water. The use of the exclusively milk diet was maintained until the temperature remained normal for at least a week." "Constipation was a frequent symptom, and was invariably relieved by enemata as often as once in three days."

In the Montreal General Hospital, in Dr. George Ross's ward, "the diet is composed exclusively of milk and rice water. The amount of milk consumed daily is not considered immaterial. It is not deemed prudent to allow, as is often elsewhere done, milk *ad libitum*. On the contrary, the daily quantity is strictly limited, in the case of adults, to three pints *per diem*." Dr. Ross says further, "We find a large proportion of our patients constipated, rather than suffering from diarrhœa. The bowels are never allowed to remain quiescent for more than three days at most. More generally two days only are allowed between evacuations, which, if necessary, are obtained by means of enemata."

These experiences of different hospitals have a notable unanimity. Perhaps we have not sufficient data to justify any conclusions as to the comparative mortality in typhoid fever under the different dietaries; because other important circumstances, which cannot always be learned, should enter into the calculation. At least, we cannot infer anything from the reports of cases in private practice, where the conditions are so various. It might safely be done in hospital practice, if we exclude all cases that are not brought in at the outset of the disease. To include all cases indiscriminately would be misleading—as where in the New York Hospital, in Dr. Peabody's wards, last summer, the first seven patients died (two having entered the hospital moribund); whereas, after August 14th, there was only one death in twenty-one cases. And in Dr. Flint's cases in Bellevue Hospital, during the last summer and autumn, which were twenty in number, and all recovered. He says, "In none of them was there any marked feature, except great mildness, and so it was impossible to say whether this was due to the character of the disease or to the treatment—except in one, in which a temperature of 107° was reduced by antipyrine and repeated 'wet pack.'"* And Nathan Smith says: "In the autumn of 1812, Dr. Perkins and I attended between fifty and sixty cases of typhus (typhoid) in the vicinity of Dartmouth College, and many of them students of that institution, of whom we lost but one."† These are exceptionally good results, and do not represent the average mortality from typhoid fever.

I assume, as the universal opinion, that air, that is, pure atmospheric air, is one of the indispensable therapeutic agents in continued fever. Its importance in all conditions of disease is never questioned; but in a grave affection, like continued fever, it must be considered an element upon which a favorable termination absolutely depends. Oxygen is destructive of developed micro-organisms. To deprive a patient of a full supply of it, must induce a rapid increase of them within the body. The abatement of fever, and the striking improvement in all the symptoms, which many of us have witnessed, upon the removal of a patient in an advanced stage, from a small and close room to one that is large and well ventilated, affords a striking confirmation of my assertion.

Flint says: "Free ventilation is highly important. Adequate provisions for this end, especially in hospitals, demand attention. But, in addition to these, the doors and windows should be thrown open, in suitable weather, several times daily, to secure a more complete renewal of the atmosphere."‡

Nathan Smith says: "We should contrive to have a current of air pass over the bed by means of doors and windows."* Liebermeister, in his article on typhoid fever, in "Ziemssen's Cyclopædia," says: "Care should be taken to maintain proper ventilation day and night. Even a strong draft of air, for a time, is harmless; a patient with a high temperature cannot take cold."† He does not approve, however, of having the temperature of the room exceedingly low—between 56° and 64° Fahr., he says:

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* GAILLARD'S MED. JOURNAL, February, 1888, p. 183.

† Op. cit. p. 75.

‡ Op. cit.p. 292.

Niemeyer says: "Fresh, pure air is very necessary for all typhus patients, and they do not catch cold nearly so readily as the laity imagine. The temperature of the room should be kept as nearly as possible at 60° to 65° Fahr."‡

On this last point, the temperature, Landois says: "The oxidation or combustion processes within the body of the fever patient, are greatly increased when he is placed in a warmer atmosphere." "A warm temperature of the surroundings raises the temperature of the fever patient more than it does that of a non-febrile person."§

Dr. Isaac Wood, of New York, in a letter to a Senate Committee of Inquiry in 1854, says, after an examination of hospitals filled largely with emigrants ill of typhus: "To show how very necessary good air and diet are, I would again allude to the official visit to our hospitals, where such immense numbers of fever cases arrive, that, to provide for them, several private buildings in different parts of the island were hired, and even tents erected in the open air. I was there informed, by the physician of our largest establishment, that those treated in the open air generally did well, or the best, and that the treatment was little more than nutriment."||

But the strongest evidence of the positive value of these hygienic measures, and their superiority to all other therapeutic agents, is to be found in the same Committee Report, in letters from Dr. C. McKnight Smith and James Parker, of Perth Amboy, N. J., of which the following is an abstract: In the month of August, 1837, eighty-two emigrants, ill with typhus, were landed near Perth Amboy from the ship *Phœbe*, and, for want of hospital facilities, were carried into an open wood, where two rough shanties were hastily erected for their accommodation. The shanties were boarded up about four feet on three

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* Op. cit. p. 95.

† Ziemssen's "Cyclo. of Pract. Med," vol. i., p. 230.

‡ Niemeyer's "Text-Book of Practical Medicine," II., 598.

§ "Manual of Human Physiology," by Dr. L. Landois, Prof., etc., Univ. Greifwald. 1884. I., 451.

|| Report of the Select Committee of the Senate U. S. on the Sickness and Mortality on Board Emigrant Ships. 1854.

sides, with old sails stretched overhead. Of the eighty-two, twelve were insensible at the time of landing, in an advanced stage of fever, and not expected to live twenty-four hours. "The night after their arrival," says Dr. Smith, "we had a violent thunder gust, accompanied by torrents of rain, and the clothes of all the patients were saturated with water. The medical treatment was exceedingly simple, consisting, in the main, of an occasional laxative or enema, vegetable acids and bitters. Wine was liberally administered, together with the free use of cold water, buttermilk, and animal broths. Not one of the eighty-two died. All recovered. Four sailors, who sickened after the arrival of the vessel, were removed to an ordinary dwelling-house. The medical treatment in their case was precisely similar, yet two of them died."

The necessity of antipyretics in continued fever, whenever the temperature reaches a high point, has been shown by Dr. Flint. Liebermeister says: "By far the greater number of those who succumb to typhoid fever die from the effect, directly or indirectly, of the fever heat." A remark that applies to many cases of other acute diseases. Liebermeister refers to Currie's treatment by cold affusion, which found many followers in his time, but gradually fell into disuse, possibly from its inconvenience. Liebermeister prefers the cold bath in the tub, at a temperature of 68° Fahr. or lower, continued for ten minutes at a time, after which the patient is to be put to bed, wrapped in a dry sheet, sufficiently warmed, and given a glass of wine. Feeble patients require, to begin with, baths of a higher temperature, say 75° Fahr. His method is a laborious one, as he has the temperature taken every two hours, day and night, and when it reaches 102.2° in the axilla a cold bath is given. In some instances that have occurred in the hospital at Basle, the number of baths required by a patient during his entire illness has exceeded two hundred. These were exceptionally severe and obstinate cases, from four to eight baths per day being generally found sufficient.

In the average experience in the United States, however, the use of baths in Liebermeister's manner cannot often be required. Witness Dr. Flint's cases at Bellevue Hospital. If patients are seen at the outset, so that they can have absolute rest, pure air—fatal to the growth of micro-organisms—and nutriment, little more active treatment will be needed. Still, a varying proportion of graver cases will usually be seen.

Of the internal antipyretics, quinia, digitalis, veratria, antipyrine and acetanilide, the last two have been fully presented to this Association in recent papers and discussions. Digitalis and veratria are recommended by Liebermeister and other German authorities, either conjoined with quinia or substituted for it, when quinia fails to reduce the temperature.

Liebermeister advises quinia as an antipyretic, in one large dose: twenty-two to forty-five grains of the sulphate, taken in the space of an hour, and not repeated under twenty-four or forty-eight hours. The result is a great lowering of the temperature, even to the normal standard—which will not occur if the same amount is given in divided doses extending over the whole day. The minimum temperature is reached in from six to twelve hours, and although it gradually rises again, it is apt to fail to reach its original height, even on the second day; and Liebermeister remarks that, as a fever with intermissions is less dangerous than a continued one, it is desirable to produce as decided an intermission as possible.

He publishes, for comparison, tables of his results in typhoid fever, under different methods of treatment, in the hospital at Basle. From 1843 to 1864, under the ordinary expectant, symptomatic kind of treatment, of 1,718 cases, the mortality was 27.3 per cent. From 1866 to 1872, under systematic treatment, beginning with calomel, two to four doses of eight grains each, in the course of a few hours—if the patient enters before the ninth day of the disease—followed until convalescence by active antipyretics, internal and external, as already described, of 1,121 cases admitted to the hospital, the mortality was 8.2 per cent. Liebermeister recognizes a very great change in the whole character of the disease under this active treatment, and says, "In fact, typhoid fever has lost a great part of its terrors."* But a mortality of 8 per cent. is as large as we generally see in the United States under any circumstances.

It is natural to search for a specific, something which can abort the disease at an early stage; and various methods have been vaunted for short periods during the last hundred years, or have been tried on theoretical grounds, only to leave the experimenter disappointed.

If anything should be discovered which aborts any one of the zymotic diseases, it will be a germicide, if the current hypothesis of their nature be correct.

There is some ground for the belief that quinia is a germicide, destructive of the bacterium of periodic fever at least. If periodic fever is produced by a bacterium, it is not improbable that large doses of quinine, arresting the disease after one paroxysm, act by destroying it.

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* Ziemssen, i, 220, 223.

Liebermeister's experience with quinine, in doses of forty-eight grains, might have been successful in completely arresting the fever, if those large doses had been more frequently repeated. This is only a suggestion. But I recall an interesting case in my practice, in 1853, which is illustrative. Incited by the views of Dr. Robert Dundas, of Liverpool, published in 1852, I treated a case of typhoid fever with sulphate of quinine, to the amount of one hundred grains daily, in divided doses. On the fourth day, according to my recollection, the fever had nearly disappeared, the pulse was about normal; the abdominal symptoms had materially abated; and, although complete convalescence was not at once established, the general character of the disease was extremely mild. Quinine was continued, in moderate doses, to the end. The difficulty of taking so large an amount of quinine, deterred me from repeating the experiment.

It is probable that the regular duration of the zymotic diseases marks the natural lives of the micro-organisms which are supposed to produce them. In scarlet fever, measles, small-pox, and typhoid fever, we have this well-defined course and duration, corresponding with the natural life of their respective bacteria. If these diseases are prolonged in individual cases, by sequelæ peculiar to each, the consecutive symptoms arise from secondary pathological conditions which the bacteria have produced in the system, and which continue for indefinite periods after their death—periods longer or shorter, according to the violence of the primary disease, the constitution of the patient, and attendant circumstances. In scarlet fever we have inflammation of the pharynx and external ear, and later nephritis; in measles, pulmonary congestion and pneumonia; in typhoid fever, the symptoms arising from the still actively inflamed and ulcerated glands of the intestines and mesentery. And these secondary conditions may go on to a fatal issue, if the shock produced by the disease germs has been sufficiently severe.

I have an illustrative case so interesting that I will quote it fully. In January, 1863, in Camp at Poolesville, Md., "J. M., æt. 20, in the third week of typhoid fever, began to fail with the urgency of the diarrhœa; and about the eighteenth day vomited everything, and appeared moribund—eyes sunken, with dark areolæ, and extremities cold. All attempts to administer food and medicine were abandoned. After some hours, the vomiting not having returned, he began to take champagne in half-ounce doses, and retained it. This was continued three or four times an hour, while our one small bottle lasted. After this, he was fed with cider, from two to three ounces an hour, for thirty-six hours; then I ventured on beef juice in small quantities, and on the fourth day gave him milk, and the next day a little cracker. There was no vomiting at all. He mended slowly from the day after the change took place. He had no evacuation from the bowels for five days; then got an enema, followed by an abundant, formed dejection. No untoward symptoms appeared; no medicine was used; the cider was discontinued after ten days; and he made a perfect recovery."* This appears to be a case where the specific disease had terminated—probably at the end of a fortnight—and the patient was dying of its sequelæ. It was one of 255 cases of continued fever, in my regiment, in five months of the autumn and winter of 1862 and 1863, of which 31 were fatal.

In the present year, 1888, such a history cannot be supposed as typhoid fever prevailing for five months in a camp, attacking one-fourth of the entire force; but in 1862 and 1863 it had not been discovered that the alvine dejections contained the seeds of the disease, and no means was known of arresting the epidemic. The regimental hospital consisted of three hospital tents pitched together, making one apartment 48 x 16 feet, with twenty-four beds. The winter was cold, and the ground covered with snow. The tent was warmed by two large stoves, and ventilated by wooden boxes enclosing the stove-pipes running through the canvas roof, and with a small opening near the ridge pole at one end. We had no wooden flooring—the beds stood on the bare ground—and after six weeks I had reason to think that the ground had become infected, notwithstanding our ventilation; for whereas the men had always shown some improvement in their general condition on being removed from their A-tents to the hospital, those now admitted did not exhibit any amelioration of their symptoms. I therefore removed the tents to new ground, and had the gratification of finding that the patients showed a favorable change after admission.

Typhoid fever is an infrequent disease, compared with what it was before the manner of its transmission was understood. Throughout New England it prevailed widely, sometimes in a village being a serious epidemic, continuing from summer till midwinter. I recall the instance of a village in New Hampshire in which, of four hundred inhabitants, ninety were ill with typhoid fever in one season—a history which would now cast great and just reproach upon the attending physicians, but was not an uncommon experience thirty years ago.

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* Report of Sick and Wounded, 14th N. H. V., near Poolesville, Md., Jan., 1863. Wm. H. Thayer, Surgeon.

Even now it belongs more to New England than to New York, although it has extended much in a southerly direction since Bartlett wrote, in 1846: "It is the common fever of the New England States." "It prevails also, more or less, in the Western and Middle States. It is probably less common in those portions of the United States which are visited by the various forms of intermittent and remittent fever than in those which are exempt from these diseases." "In Lowell, Mass., from 1830 to 1846, consumption was the only disease that furnished a larger number of deaths than typhoid fever."* Since Dr. Bartlett wrote, typhoid fever has extended considerably over malarial regions, formerly considered nearly exempt from it; and of late years malarial fevers have spread over half of New England. But typhoid fever is still much more frequent in New England than in this vicinity. During the year 1887 the deaths from typhoid fever in Brooklyn were 138 in a population of 758,000; in Boston, 171 in a population of 400,000—nearly three times as many in proportion to population.

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PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

March 6, 1888.

CONTINUATION OF THE DISCUSSION OF DR. FLINT'S PAPER ON FEVER—TREATMENT OF TYPHOID FEVER.

[Following the paper of Dr. W. H. THAYER. See page 333.]

Dr. Rochester.—The treatment of fever seems to be very uniform. I think most of us now-a-days treat it a good deal alike, and are inclined to follow the expectant plan.

Some time ago I had an opportunity of seeing, in the Buffalo General Hospital, the relative merits of apyretic, according to Liebermeister, and of the expectant plan of treatment. They have a great deal of typhoid fever in Buffalo almost every fall, not so much now as they used to some twelve years ago, at which time the observations were made. As the cases came into the hospital, first one was put on the expectant plan of treatment, and the next treated by the apyretic method. By apyretic treatment, I mean quinine given in doses of 60 grains. The rule was to give 20 grains, and in an hour 20 grains, and in another hour 20 grains more, making 60 grains in two hours; which was found, in the majority of cases, would drop the temperature to normal, and sometimes even to subnormal; but I do not recall a single instance where it did not return to the same height as before. And the conclusion arrived at was, that as it was tried there, at any rate, it was a failure, and that better results were obtained with those patients who were treated on the expectant plan.

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* "History, etc., of the Fevers of the U. S.," by Elisha Bartlett, M.D. 1847. Pp. 83-84.

Dr. Sullivan.—In comparing our present most approved methods of treating the essential fevers with those of the past, it appears to me that our greatest advances have been made in the direction of dietetics. It is now quite generally admitted that the mortality from these diseases may be very much diminished by administering only such articles of food as the patient can readily digest and assimilate. I admit that milk is the best and most available nourishment at our command, but I believe that ordinary cold milk is very indigestible, and will frequently distress the patient—cause the temperature to rise, and aggravate the symptoms. Science has rendered us great assistance in this respect, by enabling us to give pre-digested food to our patients, and thereby sustain their vital forces to a greater extent. Peptonized milk, for instance, will be readily appropriated by the enfeebled digestive apparatus, and supply the requisite nutriment. When it is not practicable to peptonize the milk, it should always be administered warm, with the addition of a little salt or some alkali. Heated milk is much more easily digested than cold milk, and also more stimulating.

Dr. Flint suggests the importance of administering fats and other hydro-carbons freely, for the purpose of feeding the pyrexia and conserving the vital tissues. It occurs to me that probably some of the beneficial effects obtained by anointing the body, may be due to the fact that the oil applied in this manner is absorbed and furnishes some fuel for the fever, and thereby tends to avert the destructive processes going on in the system.

In regard to antipyretics, I believe that it is generally conceded that, when given occasionally during a hyperpyrexia, they exert a beneficial influence, but no intelligent physician attempts to cure a continued fever with antipyretics. Their prolonged use undoubtedly depresses the vital forces.

Dr. Benton.—Fever cases under my care have been for many years treated largely on the expectant plan, especially typhoid, by nutritious diet and stimulation, with proper attention to the complications as they occur. The typhoid fever I have seen in Brooklyn differs very materially from the types I met in western Pennsylvania, which were characterized with loose bowels, tympany and eruption, and the mortality was mostly from hæmorrhage.

I was a little puzzled with my typhoid cases in this city at first, as none of them were well marked and all had, or seemed to have, a malarial complication, and other gentlemen noticed the same fact.

In regard to antipyretics I must say that I have never found a satisfactory one until recent years. Antipyrin and antifibrin are the only ones I have used, with the exception of cold, that gave me satisfaction in continued fevers. Quinine has always disappointed me as an antipyretic, as I have never been able to reduce the temperature more than a couple of degrees with it, and almost always the irritation to the nervous system from its use caused more trouble than the excessive heat would have done.

I have no new or novel line of treatment for typhoid fever, but simply treat the disease and its complications on general principles.

Dr. Lloyd.—I will only add one word to the point which Dr. Sullivan has made in reference to the use of warm drinks.

Some three years ago my attention was called, by an article in the *New York Medical Journal*, by a physician in the interior of the State, to the use of hot drinks throughout the course of fever. I was led to try it in some cases where I could carry it out thoroughly and my limited experience of that method has been quite encouraging. It keeps the skin active throughout, and of course it also acts as a diuretic. The plan was to use milk, chiefly, and make it hot with hot water; we used some other hot drinks that were supplementary, but milk was the chief thing.

In reference to stimulants, my experience is that they are to be used as indicated,—often with a free hand. My belief is, as far as my experience goes, that by using hot drinks freely in typhoid fever we can very often escape the necessity of using antipyretics.

Chair.—Dr. Flint seemed to advocate the use of stimulants more as fuel, or something for the fever to burn up instead of burning up the tissues; that if the alcoholic stimulants, and fats especially, were used freely, that the tissues would be saved by having the fever feed on these carbo-hydrates.

Dr. Bierwirth.—In regard to the use of stimulants, I have seen a number of cases in hospital practice, and it has seemed to me that the stimulants are given on the general plan, not when they are indicated by weakness of the heart's action. I have noticed in a number of cases that they seemed to disturb the patient. In cases where the heart acted regularly and was of fair strength, and the alcohol was given to increase the amount of food, I noticed that the patients became restless and there was a tendency to nausea and a greater tendency to vomit. I have seen a number of cases where alcohol was very poorly borne. I had a case last summer where alcohol was not borne at all. The case lasted eight weeks; first the primary case of three weeks and then a relapse of four and a half weeks. In the first three weeks no alcohol or medicines were given; in the relapse, alcohol became necessary, and every time whiskey or brandy was tried it was rejected; we finally tried champagne, which was borne for a few days and then rejected. All throughout that relapse the patient was very much emaciated and very low indeed, but alcohol disagreed with him and had a tendency to upset the stomach, which I have observed in other cases. Throughout the relapse the temperature, which in the first three weeks was very low, suddenly rose beyond the point of safety—beyond 105–6—and antifibrin was tried. The first dose of 5 grains produced marked diminution from 106 to 101, but such alarming symptoms of collapse followed that we had to stop it, and the temperature within an hour and a half rose again to 105. That is one of the number of cases of failure to reduce temperature by antipyretics, accompanied by alarming symptoms following its use.

Chair.—It was a frequent remark of the late Dr. McClellan that alcoholic stimulants often disagreed with typhoid fever patients or continued fever patients, from the impurities of the spirit as it is given. He has mentioned in my presence cases in which ordinary brandy would be rejected by the stomach, but when good brandy was obtained it would be retained and be of service. His idea in regard to the use of alcoholic stimulants was that they supplied the necessary strength to the patient without the effort of digestion; that alcoholic stimulants were absorbed or utilized without calling upon the powers of digestion at all —simply absorbed and burned up in the system as force-producing elements.

Dr. Sherwell.—I would like to say a word in endorsement of what a previous speaker (Dr. Sullivan) has alluded to, namely, the abuses of the milk diet in fevers, etc. It notably disagrees with more people than is generally believed, and when used with liquors, as in the case of so-called punches, I believe it, in a fairly large number of cases, to be absolutely deleterious and not nutritious, making, as it does, an indigestible mixture, or, at any rate, one difficult of digestion. I think milk at all times when given should be combined with an alkali, or be peptonized, and the stimulant taken in the straight democratic way diluted, an interval of time being allowed between the milk and the stimulant.

To touch on another subject which I had not meant to do when rising, I think a beneficial action of antipyrin sometimes is as an antiferment in the same way as napthaline. I certainly have known of cases in hospital practice in which temperature was much reduced by its use. It was used, however, in the most desperate cases, and, as I remember, they all died.

In regard to the heroic doses of quinine treatment, I can easily imagine that climate and locality might, to some extent, determine the benefits of this, while judging from statistics and ratiocination, I would not believe in it in New York or Brooklyn; still, in a malarial climate, it might be, on common sense grounds, useful, though I do not believe in the possibility of aborting typhoid fever.

Dr. Sullivan.—I heartily endorse Dr. Sherwell's remarks in regard to milk punch. I believe the alcohol interferes with the digestion of the milk. I prefer the light wines in a majority of cases, as they do not irritate the nervous system as much as brandy or whisky, nor do they retard the process of digestion as much as the stronger alcoholic liquors.

Dr. Gardiner—I have had a case recently in which my experience with alcohol was quite the reverse. The patient was in the third week of continued fever with the temperature running as high as 104-5, and the stomach in a very irritable condition. After a day of more frequent vomiting I was tempted, on account of the low condition of the pulse, to try some whiskey, and was gratified to find that the digestion improved from that time. I continued the stimulant to the end of the fever with very happy effect.

Dr. Sullivan.—I believe there have been some recent physiological experiments made in regard to the action of alcohol on the digestion of food. The writer of the article, whose name I cannot recall, demonstrated that a very small percentage would assist, but when it exceeded a certain amount, the digestive process was decidedly retarded.

Chair.—The paper that Dr. Sullivan refers to was intended to counteract the statement that alcohol suspended digestion so long as it was in the stomach, by showing that it was the quantity present rather than the alcohol itself that arrested digestion. But the article showed that alcohol was taken up rapidly from the stomach, and did not remain long enough to interfere materially with digestion; and further, that a small quantity of alcohol, in the shape of wines at least, generally improved the digestive process.

Dr. Minard.—I had a paper prepared on a typical case of typhoid fever, but I omitted to bring it with me.

I want to say that, in my treatment of this typical case, I saw that the patient had a sufficient amount of water. She liked ice, and I had water boiled and then frozen, so that she took a quart in twelve hours. I gave alcohol as food when the fever abated. I used antipyrin very successfully. I do not believe I would take a typhoid fever case if I could not use it. It is my sheet anchor. I used turpentine on the general principle of toning up the sympathetic system. I was fortunate in having a very fine nurse and a good druggist. It is an important thing that the medicines should be administered so as not to annoy the patient. It was given in capsules, and was very successful. She recovered so that she could be removed into a sunny room at the end of six weeks.

Dr. Steinke.—I recall ten typhoid fever cases, treated by me in private practice, here in the city. I never neglected to give alcohol;—that is, brandy or whiskey. I gave it systematically throughout the disease—a tablespoonful every three hours—and used quinine. I tried, in two cases, to discontinue the alcohol treatment entirely, and found that the evening temperature was at least two degrees higher than when alcohol had been given. I am not much in favor of antipyrin in typhoid fever. I prefer quinine on account of its more valuable properties.

My patients, afflicted with that disease, all recovered; and, therefore, I have reason to consider alcohol as an important remedy in typhoid fever. I have not seen bad results from it. I think alcoholics, in the form of brandy or whiskey, should be given in all essential fevers systematically throughout the career of the disease, as long as there is an elevation of temperature.

Dr. Fox.—In 1880–81, while I was an interne at the Charity Hospital on Blackwell's Island, a number of cases of typhus fever—not typhoid—were admitted. Some were taken care of in the wards, but the cases became so numerous that we had to transfer them. We did this by putting up tents, and allowing only a limited number in each tent; and the cases in the tents did better than those treated in the wards of the hospital. In typhus we do not have the abdominal symptoms to combat that we have in typhoid. The main symptoms were those of the head—delirium and epistaxis. The latter was so severe in some cases that we had to plug the nares. The treatment consisted in the administration of milk and alcohol; and, when the fever ran high, quinine was given; at that time antipyrin had not begun to be used so extensively. What I wished to say was mainly in favor of treating fever patients out doors, for I think this greatly enhances the chances of success.

Dr. McCollom.—The remark of my friend, Dr. Benton, that typhoid fever should be treated on general principles, is pregnant of significance. To attempt to formulate any plan of treatment for typhoid fever, as we see it here and there, is almost futile. Statistics show us that the results have been almost equally good under directly opposite plans of treatment.

What was Dr. Nathan R. Smith's success under the antiphlogistic plan of low diet without the use of alcoholic stimulants—are we getting better results now?

I remember that quite an eminent man, Dr. Powers, about forty years ago reported one year seventy-five cases of typhoid fever without a single death, and he bled every patient from one to three times. That does not tell us that we should bleed our typhoid fever patients now; it would probably be a very bad practice if we did. Because Dr. Powers saved seventy-five cases, out of seventy-five, as he believed, by bleeding, does that establish the fact that venesection is a treatment for typhoid fever? Not at all. I think it should be treated on general principles.

In regard to this matter of stimulants, I suppose we will almost all of us agree that stimulants should not be given in all cases, but they should be given liberally in some cases.

I well remember a case I had thirty years ago. A little delicate girl of fourteen years of age, whom I could only keep alive by giving brandy. I tried port wine and quinine, but the heart commenced to fail. I then resorted to brandy and during a period of sixteen days I gave her eight quarts of brandy, and she recovered. I do not think she would have recovered without the brandy, but that does not prove that brandy or stimulants should be given in all cases. But I have certainly seen some very good results from alcoholic stimulants freely administered.

There is another thing which we should not forget, and that is that there is danger of heart failure when there is continued high temperature, and it is not infrequently the case that in long continued fevers, with high temperature, the heart becomes very much weakened, —dangerously so even in convalescence.

BERLIN MEDICAL SOCIETY.

At the meeting of January 25th, 1888, Virchow in the chair, Dr. Lowenmeyer demonstrated a dermoid cyst of the mesenterium, which was found on making the post mortem on a patient who was taken into the Jewish Hospital, on account of excessive dyspnœa, and died in twenty-four hours, before a diagnosis could be carefully made.

Virchow, who examined the case, was able to say in this, as he pointed out in the earlier case, that the tumor contained parts which could not be classed otherwise than in connection with the respiratory apparatus, and which probably were embodied in the tumor at an early date. There were cavities to be noted in this tumor which were filled with thick slimy masses, and the cells covered with ciliated epithelium. As it seemed to indicate a tumor above the diaphragm, there was nothing left than to believe that the ciliated epithelium had its origin from the mucous membrane of the respiratory tract. Numerous pieces of cartilage in the form of pavement epithelium were found just as they are in the respiratory canal. There were no teeth found in the cyst.

Virchow demonstrated a larynx from a case of chronic laryngeal phthisis. This showed a deep hole on the one side, the result of a suppurative perichondritis, which resulted in a complete loosening of the arytenoid cartilages. On the other side there was an extensive ulceration which extended over both vocal cords.

Virchow presented a man aged thirty-four, who from his earliest youth has been distinguished by an unusual development of his muscles. This is so great that he is not able to bring his arm to his side in the usual way. The enlargement is more marked in the upper part of the body than in the lower. The man is on this account, of very great bodily strength. A number of examples of enormous development of the muscle were cited.

Dr. Pohl-Pincus discussed the knowledge of previous mental conditions from the human hair of the head. The speaker had examined the hair of human subjects under the microscope most thoroughly, in order to come to conclusions in regard to the previous mental conditions of individuals. He has not only found changes of a characteristic kind, by which he can determine the psychical condition of the individual, but he believes so much in the changes which the hair shows, that he thinks he possesses the finest reagent of ill health and even the predisposition to sickly conditions.

Dr. Lowin who had reported at the sitting of January 4, 1888, on the Examination of Erythrophlaein, an African drug of anæsthetic nature, which has not as yet been described, stated further that he had injected 0.5 milligramm hypodermically of a solution of the drug in a hedgehog, and after twenty minutes it had not the least appearance of pain, though he cut skin and muscles through, as well as the peritoneum, till the bowels protruded. A similar result followed in the case of a dog, where Dr. Lowin demonstrated the anæsthetic peculiarities of the drug.

Sitting of January 18th, 1888. Dr. Henoch in the chair.

Dr. B. Fraenkel presented a patient æt. 17, who had come to the polyclinic with symptoms pointing to Basedow's disease. There was no exophthalmos present, but the patient had a marked struma, and the pulse showed a continuous rate of 120 beats. The patient was first treated with the constant current; and then, as he complained of nasal stenosis, was treated with the galvano-cautery to the posterior turbinated bone on the left side. A few days later, there began a diminution of the swelling of the goitre on the left side, and, at the same time the pulse became slower. After four days the right side of the nose was cauterized, with the result that the swelling of the goitre on this side disappeared altogether. Measurements, before and after, showed that the circumference of the neck had decreased two inches.

Dr. B. Babinski was of the opinion that the small decrease in the circumference measurement was due to some failure in the latter.

Dr. Remak thought that the diagnosis of Basedow's disease was not justified, as the principal symptom—exophthalmos—was wanting.

Dr. Fraenkel thought the diagnosis, as well as the measurements, were correct.

Virchow presented preparations from a case of extreme leucæmia, in which the post mortem was made by Dr. Langerhans. An unusual case of polyæmia was present, and the blood showed a very peculiar cream-like character, which was very similar to the contents of a not fully-matured abscess. The spleen was much larger than the normal-sized liver. The spleen showed a multiplication of the Malpighian bodies, and an elevation of the parenchyma, which, in many places, is so distended that the whole sections of the spleen have taken on an entirely gray color. Of hyperæmia there was nothing to speak of. In certain places old scars are to be seen. There was also another change, the extent of which could not be well marked out; that is, a change in the medulla ossium, which is noticed in the so-called myeloid leucæmia. One femur, which was examined, showed no trace of yellow medulla. The medulla was either red or changed in the diaphyses into a green, pus-like substance. The mistaking this for suppurating process is excluded because the white blood corpuscles in the blood do not show the multinuclear form, but the single nucleus is in the majority. Pus-like elements were found just as seldom in the other parts. The first appearances of leucæmic tumors began to form in the kidneys.

Death occurred with very numerous small hæmorrhages in the brain substance—the so-called capillary apoplexy. It was then thought that the case could depend on a series of malarial influences, but Virchow left it undecided whether this was really the origin of the disease or not.

Discussion of the subject presented by Dr. Senator, viz., Acute Infectious Phlegmon of the Pharynx—was then introduced.

Dr. Paul Guttman related a case analogous to that reported by Dr. Senator, and wished to say that this form of disease was not so unknown, as Dr. Senator would have us believe. The disease is, on the contrary, described by numerous authors, especially by the French. Their descriptions are also found in the text books. A pretty thorough description is contained in Ziemssen's Special Pathology, Vol. II. The acute infectious diseases, especially under the name of the erysipelatous inflammation of the larynx and pharynx; also in the pathology of Eichhorst, Vol. IV., as well as in the text book of surgery by König. In Ziemssen's description he says there may be phlegmon in erysipelas of the face, and also primarily in inflammation of the pharynx, which is also accompanied by much swelling, which goes over into the larynx and often leads to laryngeal stenosis. The patients, when tracheotomized, die rapidly, and the affection is accompanied by swelling of the spleen.

Dr. Senator has only concluded that his case was not one of erysipelas of the mucous membrane, because no erysipelas of the face was present, and because the bacteriological examination found no erysipelas cocci in the tissues. It is hardly proper to decide that there were no erysipelas cocci present, when the examination of a very small portion resulted negatively. On the other side, there is as yet no statement in bacteriology that in every case of erysipelas of the face there are to be found erysipelas cocci in the mucous membrane. We have also no means by which we can tell whether a phlegmon of the larynx or pharynx is erysipelatous or not. In order that we may tell that this is erysipelas of the mucous membrane, we must have the accompanying erysipelas on the face; and, further, that erysipelas is observed with just such cases of pharyngitis and laryngitis. We must also observe that such cases of phlegmon of the pharynx and the larynx can be followed by erysipelas of the face, through the emigration of the micro-organisms.

Virchow remarked that he had examined, anatomically, a large number of cases like those which Dr. Senator had observed clinically, and that he had reported fully on them in the *Charité Annalen* in 1878—1880. The process deals with the pharynx, and then with the œsophagus, stomach, and bowels, with a tendency to extend on to the other parts which are neighbors to these; as, for instance, from the upper part of the œsophagus and larynx on to the organs of the neck and trachea; from the lower part of the œsophagus on to the mediastinum; and from this on to the pleura. In many cases one can know the local origin; in others it is of a metastatic nature. In the latter connection we have often those cases which occur in consequence of puerperal fever. Virchow demonstrated from the pathological institute a large number of cases belonging to this order. Besides the two classes named, there is also a third in which the cause cannot be pointed out, and which seems to be spontaneous.

Dr. Sonnenburg said that surgeons were also well acquainted with such cases. These acute phlegmons of the pharynx come oftener in the case of children. Dr. Sonnenburg presented the report of a case which, in the commencement of January, without any discoverable cause, developed a case of phlegmon of the jaws. The child had tracheotomy performed upon it. At the same time a large swelling showed itself beneath the right angle of the jaw. It was incised and a large gland was removed, which was not suppurating. It was now possible to open the mouth, which showed a large supply of pus. There was an extensive phlegmon of the mouth present, which communicated with the external wound. The child is now convalescing. Dr. Sonnenburg remembered a similar case, which occurred in a patient suffering with diabetes. He thought we had no right to diagnose erysipelas of the mucous membrane, unless there was an erysipelas preceding it, or when a typical erysipelas of the skin followed the trouble on the mucous membrane, or when erysipelas-cocci could be demonstrated in the tissue of the mucous membrane.

BRITISH GYNÆCOLOGICAL SOCIETY.

The British Gynæcological Society is one of the most faithful working societies in Great Britain. The members are gentlemen of style, not only as regards their rhetoric, but also as regards their dress. They appear at their regular meetings in full evening dress.

"Enucleation, by Electrolysis, of a Large Uterine Fibroid," was the subject reported upon at the meeting, November 26th, by Dr Holland. The patient, æt. 38, was the mother of seven children. She was admitted into the hospital for women, Soho Square, for a uterine hæmorrhage, which resisted all usual remedies. Uterus reached to the level of the umbilicus, and the sound passed to a depth of seven inches. There was no cervix available for a stump, and electrolysis was considered a legitimate procedure. The current was applied in the usual way on several occasions. The strength was gradually increased to 300 milliamperes. Necrosis of the tumor resulted. This, with the help of the écraseur, was successfully enucleated. On the second day of the operation the temperature rose to 104°, but was quickly subdued by quinine and the intra-uterine douche. The patient made a satisfactory recovery, and the uterus was found to be reduced to its normal size. The reporter remarked that the tetanoid contraction into which the uterus was somewhat persistently thrown by the electrical excitement on each occasion led him to anticipate necrosis and enucleation as possible and probable contingencies. He also calls attention to the diagnostic importance of the galvanic current in tumors of uterine construction, as by this means such tumors are so hardened and defined as to at once isolate them from any other with which they could reasonably be confounded.

Dr. Imlach thought the Apostoli treatment was as full of promise as the electric belts so widely advertised. Dr. Holland had shown that it could do the only thing left unclaimed for it, viz., make uterine fibroids slough out. He thought it doubtful what influence electrolysis had to do with this case. It was possible that the fibroid was lying in the uterine cavity and ready for extrusion at any moment, and that any irritant or cauterant would have acted as well.

Dr. Mansell-Moulin thought the operator was much to be congratulated on the successful termination of his case. He could not help thinking that the element of good fortune had been present throughout. His patient had been fortunate in escaping the dangers of septicæmia, which every one knew was a very imminent one in the case of a sloughing fibroid. It was to be trusted that the operator's reason for the necrosis having taken place was the correct one. Thereby, presupposing a strong uterine wall outside the tumor, it would be most undesirable, when employing the current, to establish necrosis in a tumor which was either subperitoneal or interstitial. Dr. Mansell-Moulin thought that in suitable cases of submucous fibroids the electric current would be found of much service in connection with the operation of enucleation. Its action was to hasten the process which Nature, in many instances, was already attempting to do. It forced the tumor downwards and through the cervix, thus dilating the passage and bringing the tumor within the reach of the operator. There was no evidence, as claimed by Apostoli, of a diminution in bulk from the effects of the electrolytic treatment. In numerous instances in which he had seen the treatment carried out with that view, failure had, without exception, resulted.

The president, Dr. Bantock, exhibited a tumor with a twisted pedicle.

Dr. Edis discussed the subject of the retained products of conception, and exhibited the placental portion of an ovum which he had removed from a patient three months after a miscarriage.

CLINICAL RECORDS.

ACUTE CIRCUMSCRIBED ŒDEMA. By John J. Berry, M.D., Portsmouth, N. H.

Although the text books ignore, as a rule, the existence of the above affection, its comparatively frequent occurrence calls for at least a passing remark.

This phenomenon has been noted and described by several foreign writers, but Matas is the only one in this country, to my knowledge, who has reported a case. I can recall one or two instances of this disease observed in past years, but unfortunately can present no history of the same.

Concerning a case observed a few months ago, however, my notes read as follows: Mrs. S., a married lady of a very nervous temperament, about thirty years of age, mother of one child, ten years old. She has been out of health for several years, has chronic ovaritis and laceration of cervix with subinvolution. Has internal hæmorrhoids, from which she has occasional severe hæmorrhages. Is somewhat anæmic; has had two or three attacks of œdema of face, occurring at intervals of two or three a month. These take place without any warning or any prodromata, and continue from twelve to twenty-four hours, disappearing gradually. The swelling is limited to the eyelids and upper portion of the face. The attack which came under my observation, involved both lids and face, almost closing the eyes and giving the countenance a markedly distorted appearance. The tissues evidently contained serum and showed piting on pressure. There was no superficial redness or pain. No swelling or œdema in extremities or elsewhere, nor had there ever been. Nothing whatever could be found to account for this condition. Heart, liver and kidneys were normal. Examination of urine showed the following results: sp., gr. 020; acid; no albumen or sugar, but phosphates; no casts.

The patient was seen again within twenty-four hours, at which time the swelling had almost entirely disappeared. There had been no constitutional symptoms accompanying either this attack or the former ones.

In the article referred to, Matas states: "It is accounted for by Quincke as an angina-neurosis. Strübing attributes it to an exaggerated excitability of the vaso-dilator nerves. Riehl opines that the difficulty lies much more in the central nervous mechanism and its peripheral dependencies." In the present instance it is very difficult to say which of the above factors entered most actively into its etiology. While there was undoubtedly a nervous element in the case, one would be inclined to attribute it, in a great part, to her anæmic condition; yet when one considers the facts of its evanescent character and its location, we could, with greater reason, ascribe it to some abnormal condition of the bloodvessels and their nerve supply, rather than to changes in the blood itself. The condition of acute circumscribed œdema is worthy of some discussion, as it may serve to throw light upon some of those sudden cerebral attacks which would otherwise be inexplicable.

A Case of Acute Tuberculosis. By Owen Lankester, M.R.C.S. With Remarks by Sir Dyce Duckworth.

On November 4th I was sent for to see H. H., aged twenty-five, single, a cook, who was complaining of a sharp, shooting pain at the tip of the left thumb, so severe that it kept her awake at night. On inquiry, she had been out of sorts for several days, her appetite had failed, and she had felt listless.

Examination of the thumb revealed nothing to account for the pain; her tongue was slightly furred, and the temperature 102° F. She was told to go to bed and have a poultice applied to the thumb, to take an aperient at bed-time, and to use a fluid diet. Her history was good; her father and mother were both alive and well; seven brothers and sisters were also living. There was no history of phthisis or rheumatism in the family; her previous medical history was also good. She had been in a cottage hospital two years before with what seemed to be aggravated dyspepsia.

On November 5th she expressed herself as better; the aperient had acted and the pain had left her thumb, having passed to the ring finger of the same hand. She complained of breathlessness in coming up-stairs, but after a careful examination no sign of any mischief in any organ of the chest or abdomen could be detected. The temperature at night was 102°, and in the morning 100°. She was given quin. sulph. gr. ij thrice daily.

On November 7th she again expressed herself better; there was no pain in the fingers, but the calf of the left leg was so painful she could not put her foot to the ground. There was no swelling, no redness to be seen, and the calf of the left leg was precisely the same in measurement as that of the right, but it was very tender on pressure. Her general condition was much the same; the temperature was 100° in the morning and 102° at night; pulse 96, regular, full; the tongue was furred in the centre and red at the side; there was no enlargement of the spleen; no abdominal tenderness; the urine 1020, acid, natural. Belladonna and glycerine were applied to the leg, which was wrapped in wool and raised on a pillow.

The patient's condition remained much the same for the next few days; the pain in the calf continued, but as she did not get out of bed, it was not very troublesome. The temperature remained raised; the pulse was strong and regular, but rapid: the tongue became gradually drier and cracked. She was always cheerful, declaring herself better, and took her food, which consisted of milk and beef-tea, very well.

At this period typhoid fever seemed possible, but there was no splenic enlargement, no spots, and the stools were solid and had no special characteristics.

On November 14th the patient complained of a sharp pain in the left forearm, in the bones, as she said, quite different from the pain in the calf, which was of a dull, aching character. I again examined the chest and abdomen carefully, but discovered nothing abnormal; she had no cough, slept well, and took her food well. The temperature in the morning was 100°, and at night 102.3°; pulse, varying from 98 to 102, strong; urine 1020, faint cloud of albumen. Treatment as before.

On November 18th Dr. Oswald Browne saw her with me. At this time she complained only of pain in the muscles of the calf of the left leg, where there was marked tenderness, with some increase of resistance on palpation—nothing more. There was no suspicion of tubercular disease. Respiration was perfectly natural, and there was no cough. Physical examination of the chest revealed true pericardial riction at the cardiac base over an area of the size of a crown piece. The temperature taken in the mouth was 103°.

Though articular symptoms were absent, Dr. Browne considered that the pericarditis and pyrexia were manifestations of acute rheumatism, and advised the application of a blister over the area affected, and treatment by full doses of salicylate of soda every four hours. This treatment was adopted.

On November 19th friction was still slightly audible. The temperature had fallen from 103° the previous evening to 100.3° On Nobember 20th friction was no longer heard. The temperature in the morning was 99.6°, and at night 100°, the lowest record since the commencement of the illness. Pulse 89. She took nourishment well and slept well.

For the next few days the improvement was maintained. The temperature never quite reached normal. It was 99.4° in the morning, and 100.2° at night, varying a few points from time to time.

On November 23d salicylate of soda was given thrice daily. On November 25th the temperature began to rise again, reaching 101.8° at night, and for the first time her appetite failed; she slept badly and wandered slightly. There was no cough, and the physical signs in the lungs were natural. On November 27th the temperature in the morning was 101°, and at night 102.4°. Pulse 104. A small patch of friction (pleural) was detected in the left axilla. There was no pain on breathing, and no cough; the respiration was 22. On November 28th the temperature was still high, the pulse 106, and she seemed confused. The friction was spreading in front; pain was still present in the calf. The retinæ were examined ophthalmoscopically with negative result. Salicylate of soda, which was then given thrice daily since the 23d, was discontinued, and quin. sulph. gr. iij was ordered thrice daily. On November 29th there was slight crepitation in the right axilla; in the left axilla there was pleuro-pericardial friction; the heart's apex was in the nipple line, and there was no murmur; the spleen was not felt; the tongue was dry and cracked; respiration 23. On December 2d, it being impossible, owing to domestic reasons, to keep her where she was, she was removed to St. Bartholomew's Hospital, under the care of Sir Dyce Duckworth. Dr. Tylden, house physician, has kindly allowed me to use his notes.

The urine contained a cloud of albumen. The spleen could be felt on deep inspiration. She was ordered quin. sulph. gr. iij every six hours, milk, beef-tea, and brandy. The temperature in the morning was 102°, and at night 103°; the pulse was 104.

On December 5th the spleen was still palpable; the temperature in the morning was 102.4°, and at night 103.2°; the pulmonary signs were rather less; sibilus was still present. On December 6th the temperature was still high; there was no remission; she was more dusky; there was sharp crepitation over the right front as high as the apex; the spleen was still felt; crepitation over old area of friction; slight subsultus; the temperature in the morning was 103°, and at night 103.4°. On December 7th she still took nourishment fairly; the crepitation in the lungs was increased; the pulse was 120, the respiration 32; the temperature in the morning was 103°, and at night 103.4°.

On December 8th *râles* were heard over both backs, especially the right, and harsh breathing over the upper scapula. On December 9th she was worse; the physical signs were increased; the respiration was 36, and the pulse was 120. She passed a normal motion. The temperature in the morning was 103.2°, and at night 104°. On December 10th the temperature was 101.4°; several (doubtful) rose spots were noted; breathing had been much worse during the last twenty-four hours. She died at 4:30 P. M.

A *post-mortem* examination was made on December 12th by Dr. Ormerod. The visceral pleura and the whole of the right lung were full of miliary tubercle. The right pleura contained a large, thickened spot on the anterior surface, also some recent shreds of lymph. The parietal pleura was deeply congested. The pleural surface and the interior of the lung were full of miliary tubercle. Tubercle was spread uniformly through the whole of both lungs; there was no caseation, no breaking down. The bronchial glands were not enlarged nor caseated. The pericardium and heart were normal, except slight beading of the mitral edge. There were some patches of tubercle on the serous surface of the intestine, and small deposits of tubercle in the ileum, one just ulcerating. There was also tubercle in the capsules of the liver, and one or two spots in substance, and tubercle in the capsule of the spleen. There was no enlargement of the mesenteric glands. In the kidneys were several small deposits of tubercle, some beginning to look yellow. There was a cyst in one ovary; the mucous surface of the uterus was red. No incision was made in the left calf, owing to objections by the family.

REMARKS BY SIR DYCE DUCKWORTH (added by request of Mr. O. Lankester).—The case narrated above was one of extreme interest. The patient was admitted under my care with a history of rheumatic symptoms, including pericarditis. There were no articular pains, and no signs of pericarditis on admission. The pain referred to in the calf was still present. No physical signs explained it; in particular, no venous thrombosis. The patient was clearly very ill. My first impression, which remained for a few days, was that the case was one of enteric fever. The general condition went to support this view, the state of the tongue and spleen, and several of the motions, too, being ochrey and powdery, still further lent support to it. The pyrexia was not, however, characteristic of enteric fever. In discussing the case at the bedside, I stated that the diagnosis lay between acute tuberculosis and enteric fever. Ulcerative endocarditis was considered, but negatived by the condition of the heart. For some time, indeed, an exact diagnosis was hardly possible. The occurrence of patches of dry pleurisy on each side was significant of tuberculosis. When, to this, signs of involvement of both lungs with bronchitic symptoms, manifested by fine crackling *râles*, which increased day by day, were added, the diagnosis became almost certain. With these signs there came on extreme frequency of respiration, a very significant indication of acute pulmonary tuberculosis. The necropsy fully verified the diagnosis. The case is very noteworthy, because nothing in the family history pointed to the malady, and no evidence was forthcoming of any original seat of tuberculosis in the body. The diagnosis between enteric fever and acute tuberculosis has always been, in certain instances, a matter of extreme difficulty. It was so for some time in this case. In the earlier period of the case a diagnosis was impossible. The patient appears to have plunged suddenly from previous good health into tubercular fever, and succumbed in about five weeks. The treatment latterly was by quinine in full doses, and large quantities of strong nutriment, with stimulants, were well taken to the last.

SELECTIONS.

COCAINE TOXÆMIA.* J. B. Mattison, M.D., Brooklyn, N. Y.

At a meeting of the Neurological Society, November 5, 1886, Dr. Wm. A. Hammond, in the course of "Some Remarks On Cocaine," expressed his disbelief in the toxic power of that drug, declaring "he did not believe any dose that could be taken was dangerous." In a paper by the writer on "Cocaine Doses and Cocaine Addiction," read before the Kings County Medical Society, February 15, 1887—reprints of which may be had if desired—evidence was presented to prove this opinion a mistaken one. This proof, furnished by forty different authorities—English, French, German, Austrian, Russian and American—cited more than fifty cases to support the assertion that there is a danger, near and remote, in the use of this drug on some patients, that does not warrant such reckless disregard of care as the opinion referred to implies. The cases noted more or less in detail showed that cocaine caused toxic symptoms, so marked in four as to be fatal. The amount of the drug used varied from a small fraction of a grain to twenty-four grains, and was applied to the eye, ear, nose, throat, larynx, teeth, gums, stomach, bowel, bladder, uterus, urethra, and under the skin. The symptoms noted were nausea, vomiting, headache, deafness, blindness, loss of taste and smell, profuse sweats, cold perspiration, lividity, gastric cramp; frequent, feeble, irregular, intermittent, uncountable pulse; shallow, gasping, irregular, difficult conuulsive, suspended breathing—artificial respiration required in some cases; gait, speech and swallowing greatly impaired; rigid muscles, palpitation, sense of suffocation and great constriction about chest; loss of motion and sensation in arms and legs, general numbness, intense restlessness, extreme prostration, giddiness, faintness, feeling of impending death; unconsciousness, convulsions, paralysis, hallucinations, mania, delusions, delirium—death. Summarizing, it was asserted: Cocaine may be toxic, sometimes deadly, in large doses. It may give rise to dangerous, or even fatal symptoms, in doses usually deemed safe. The danger, near and remote, is greatest when given under the skin. In further proof of these conclusions, added evidence of over forty cases is herewith appended. Two more cases of fatal effect from cocaine have been reported—one, in dental practice, in Poland, the other in France; but the writer has not yet been able to secure the desired details.

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* Read before the Association for the Cure of Inebriates, November, 8, 1887.

Dr. Sam'l T. Earle, *Maryland Medical Journal*, noted these cases: "Mr. Z. presented himself for the treatment of hæmorrhoids. Found on examination one external and several small internal hæmorrhoids, which I decided to remove by the clamp and cautery. March 5th, I proceeded to do the operation. I injected in the subcutaneous tissue around the anus about one drachm of a four-per-cent. solution of cocaine, which amounted to about two grains of the drug. In about five minutes after the injection, and before I had taken any other step in the operation, he complained of strange feelings in his legs, accompanied by a twitching of the muscles. In a few minutes more these twitchings amounted to decided general tetanic convulsive movements, which involved all the muscles of the trunk and extremities. By the time these convulsive movements had become general he complained of fullness in the head and soon became unconscious, remaining so for about five minutes. As the convulsive seizures gradually subsided, he regained his consciousness, but that, too, only gradually. For instance, he would answer me, look bright, and said he felt all right, but in a few seconds more would complain of fullness in his head and become drowsy. This occurred several times before he recovered entirely. Altogether the attack lasted about half an hour. His pulse was weak, although it could not be felt very well on account of the convulsive movements. Pupils slightly dilated. The following day, found the patient doing very well, only complaining of some soreness in his muscles."

Case 2.—Female: operation for hæmorrhoids; cocaine to produce local anæsthesia. "I injected a solution of the drug containing altogether about five grains of muriate of cocaine. In about fifteen minutes, without any premonitory symptoms, except a little nausea and faintness, she was seized with violent general convulsive movements, which were so strong, and so much more pronounced on the right side, on which she was lying, as to turn her over on her belly. She had opisthotonos, entire loss of consciousness for about five minutes, after which it gradually returned, and seemed entirely restored at the end of fifteen minutes. Asphyxia; muscles of the lower jaw violently convulsed; pupils unevenly dilated after consciousness began to return; mouth drawn to the right side; speech decidedly thickened for some minutes after her return to consciousness; respiration very labored, and at the heighth of the attack was arrested for some seconds;

pulse very feeble; cutaneous surface decidedly blanched where not purple, until after consciousness began to return, when it alternately became flushed and pallid; she now broke out in a profuse sweat. There was great prostration following the attack and a disposition to sleep. She recovered entirely after several hours, and only complained of feeling tired. This patient had never had any nervous attack of any kind previously, and both patients were remarkably robust and healthy."

Dr. J. Howell Way—*Medical News*—asserts his personal experience with cocaine was "an experiment which proved a very dangerous one, and came very near terminating fatally." At 6 P. M. he injected ¼ grain Squibb's cocaine under the skin of his forearm. No result ensuing, the injection was repeated in fifteen minutes. At 6:30 general symptoms not having appeared, ½ grain was taken, making one grain within half an hour. In ten minutes systemic effects began: he became restless, respirations 30, shallow and sighing; pulse 120; had aphasia and increasing præcordial oppression. It was now 6:50 P. M. Twenty minutes had elapsed since taking the half-grain injection. He says "my pupils were dilating slowly; mental faculties perfectly clear and collected; no pain in head or other part of body; respirations reduced to normal frequency, but very shallow and sighing; pulse, 140, quick, feeble, and barely perceptible at wrist. I walked about the room for three or four minutes, when I grew weak and exhausted, and was compelled to lie down on the lounge. At 7:20 P. M. my condition was almost that of collapse. Mental faculties perfectly clear and natural; pupils widely dilated; mouth dry, and a sensation as of the presence of a foreign body in the pharynx; respirations shallow, sighing, and reduced to 11 per minute; pulse elevated to 180, very feeble, fluttering, and extinct at wrist; extremities cold; body was warm to the touch, but my own sensations were those of intense cold. I was placed in front of a large fire and my body enveloped in heavy woollen blankets while my feet and hands were briskly rubbed. A sense of impending dissolution came over me—not a feeling of fear, but a conviction that my physical condition was such that death was almost inevitable. My mind remained perfectly clear, and I gave my attendants all directions as to my care. I took frequent doses of ammonia and digitalis—the former seemed to be of very great advantage. At 7:30 P. M. my condition was worse, and myself and attendants were momentarily expecting my death. My extremities seemed to lose all power of either motion or sensation. I struggled against this with all my will-power, and would call for frequent doses of ammonia, which would give me (so it seemed) sufficient strength to move. Painful emesis occurred twice, each time being attended with the ejection of about two ounces of white, frothy matter which soon evaporated, leaving only a faint, white residuum. Respirations were now only 9 per minute, and exceedingly shallow; carotid pulse faintly beating at 200; radial pulse entirely imperceptible; and no impulse of heart-beat felt on palpation. Mind still clear. Suffered no pain. I remained in this state for about half an hour, during which, in addition to frequent small doses of ammonia and digitalis, I inhaled three drops of nitrite of amyl. A marked improvement in the cardiac action was now noted. Respirations increased to 14 per minute, pupils contracted to normal, and skin became moist and warm. At 10 P. M. the radial pulse returned, was full, and reduced to 140. Respirations were of normal frequency, and of almost normal vigor. Improvement continued. At 11 P. M., respirations normal, pulse 120. Suffered at this time from a dull, aching pain in lumbar region of spine and sense of great weakness and prostration. Half an hour later very copious diuresis took place. At 1 A. M. was entirely well, save the feeling of exhaustion naturally following so great a derangement of the vital functions. Was now removed to my room, and slept soundly until 8 A. M. During the day I suffered much annoyance from the very dry state of my pharynx and also from muscular weakness. Both these inconveniences disappeared during the following night."

Dr. Bullock—*Boston M. & S. Journal*—reports the case of a man, aged 24, in which he used 40 minims of a 4 per cent. solution, by spray and injection for local anæsthesia, prior to tonsilotomy. Three hours later patient was suddenly seized with very severe headache, vertigo, nausea, flushed face, difficult respiration and delirium. "When I first saw him he was tossing about in bed in a half-unconscious condition, muttering to himself. I was able without much difficulty to rouse him sufficiently to answer questions, after which he quickly relapsed into his former condition. He complained of tingling sensations in the extremities, dryness and constriction of the throat, 'burning sensation' in the stomach, nausea, and intense headache. The pupils were widely dilated, there was some cyanosis of the face, but not of an extreme degree, respirations varied from 10 to 14, pulse was 126 and very weak. I at once administered 1 ounce of brandy, and a few minutes later 20 drops of tincture of digitalis. This was vomited fifteen minutes later. I then gave a subcutaneous injection of five grains of carbonate of ammonia, and applied hot sinapisms to the chest and epigastric region. A little later I again gave some brandy and digitalis, and this time it was retained. In about twenty minutes the pulse grew stronger, beating 115, and the respirations became less labored. I kept on administering brandy and digitalis at frequent intervals, and at 5 P. M. had the satisfaction of seeing the patient drop off into a quiet sleep. Pulse was 105 and quite strong, and respiration 18, while the cyanosis of the face had nearly disappeared. He slept quietly until 9 P. M., when he awoke and stated that he felt much better, but still had some headache. Pulse was 95, and respiration 20. He soon went to sleep again, and slept quietly the greater part of the night. The next morning, the 16th, he complained of a good deal of numbness and tingling in the extremities, intense dryness of the throat, and blurred vision. These symptoms gradually passed off during the day."

Dr. A. N. Blodgett—*Boston M. & S. Journal*—cites case of Dr. R., age 23, well and strong, to whom he gave subcutaneously, for local anæthesia, 3 minims of a 12 per cent. solution. "Thirty seconds after the injection was made the patient began to complain of a feeling of great depression, a sensation of coldness and of faintness. It was thought at first that these sensations were due to fright, or to an undue amount of apprehension as to the action of the drug; but this proved to be erroneous. The patient rapidly became cyanozed, the breathing changed to a sighing character, the pulse was 140 and weak, the face was bathed in cold perspiration, there were short periods of profound collapse with unconsciousness. The patient was assisted to a couch, where he soon became quite helpless. Stimulants were administered, the heat of the surface was maintained, and the body warmly covered. At the expiration of a quarter of an hour the finger on the pulse showed a commencing improvement in the patient's condition. With the restoration of the organic functions, came a mild form of delirium, the patient talking incessantly upon all possible subjects, and apparently not realizing that he had been in any abnormal condition. Soon the pulse was reduced to 80 per minute, and the skin became warm. The delirium gradually subsided, and the patient slowly returned to his natural state."

Dr. McIntyre—*St. Louis M. & S. Journal*—reported the case of a man, age 40, to whom half a grain was given subcutaneously to remove results of a rum debauch. It caused partial paralysis, slow, difficult breathing, pulse of 140, and complete inability to talk or swallow. "Patient was in a serious state for some time."

Dr. Stickler—*Med. Record*—injected 5 drops of a 20 per cent. solution prior to opening a small cyst. It caused vertigo, headache, nausea, diarrhœa, and insomnia, which persisted for three days.

R. Steer Bowker reports this case: One drachm of a 6 per cent. solution was instilled prior to and during enucleation of eye. Thirty minutes after the first cocaining "she became very faint, face blanched, lips cyanozed; felt very sick, pulse rapid and feeble." She rallied, but two and a half hours later the doctor was hurriedly summoned. "On my arrival, she was better, though faint, with cold extremities and rapid pulse. Hot brandy and water, and she was soon all right. I used less than 4 grains, and yet I think it would have taken but little more in this case to have caused a fatal result."

Dr. James Magill recorded the case of a guardsman of fine physique in whose foreskin he injected 1 grain of cocaine prior to slitting the prepuce for phimosis. In fifteen minutes patient was so extremely pallid, and complained of such precordial pain, with very slow, irregular intermittent pulse, that the operation was deferred. "This grave condition lasted 20 minutes."

Galezowski reported the case of a girl, age 12, in whom the instillation of 15 drops of a 2 per cent. solution caused severe headache, marked malaise, tottering gait and difficulty of speech as if tongue were paralyzed, persisting thirty hours.

Adams Frost noted a lad, age 14, in whose eye 1 drop of a 1 per cent. solution was instilled. In a few minutes there were blue lips, pallor, profuse sweat, and small, slow pulse. Ammonia was given, but it was nearly an hour before he recovered.

Heuse recorded the case of a female, aged 70, in whose eye 3 drops of a 2 per cent. solution were instilled, followed by great dyspnœa. The next day, 6 minims caused dyspnœa and vomiting, and later a smaller instillation produced the same symptoms.

Mr. A. Roberts—*Lond. Lancet*—injected 60 minims of a 6 per cent. solution prior to amputating breast. Patient became blind, and talked incoherently. Blindness lasted four hours.

Mr. Mayo Robson mentions two cases. In one, cocaining—amount of drug not stated—prior to circumcision was followed by severe syncope; the other, before removing nasal polypus, caused aphasia for four hours.

Dr. Barsky—*Brit. Med. Journal*—cited a case in which 1⅓ grains caused pallor, vertigo, general numbness, dysphagia, dyspnœa, chest oppression and vomiting.

Dr. Walter Tothill—*London Med. Record*—reported case of a girl in whose gums 1 grain was injected. In ten minutes she became unconscious, remaining so for 2½ hours. Another, male, aged 27, cocaine was applied in the same way prior to extraction. "Within a minute he became violent, his pupils enormously enlarged, pulse beating six times with each inspiration, face pale, with dark lines round mouth and eyes."

Schubert noted case of a strong, healthy, non-nervous female, aged 28, in whose gum 6 minims of a 20 per cent. solution were injected before extracting a tooth. In ten minutes vision was impaired, gaze fixed, and she soon became quite blind and unconscious.

Dr. Geo. O. Williams—*N. Y. Med. Journal*—reported that he injected one-half a grain of Squibb's cocaine—three injections five minutes apart—for local anæsthesia, prior to removal of small tumor from forearm. Ten minutes after last injection there were general numbness of forearm, excessive dryness of throat, pupils dilated, vision so disturbed that he could not distinguish acquaintances at forty feet, and his gait was staggering. Symptoms persisted two hours. Visual disorder and dry throat continued through a sleepless night, and toxic symptoms persisted, in part, for nearly a week.

Dr. Call, in a paper before the Madrid Medical Chirurgical Society, stated that he found 50 centigrammes of a 1 per cent. solution injected into the bladder caused convulsive movements.

Dr. Emmet Holt—*N. Y. Med. Journal*—reported five cases of children, aged 3 to 21 months, suffering from whooping-cough, in which the use of a 4 per cent. solution by swabbing or spraying caused toxic symptoms. They were vomiting, great restlessness, rapid, shallow respirations, pulse too frequent to be counted, pupils widely dilated, profuse perspiration, temperature rise to 102 degrees, constant and disconnected talking, marked delirium and convulsions, "very critical condition." In a child four months old, one swabbing with a 4 per cent. solution caused well marked toxic symptoms; and "alarming" effects followed two sprayings of the same solution in two infants, 3 and 6 months old. His opinion is "cocaine must be used with great caution in young children under all circumstances."

Grube injected 1¼ grains in a woman for local anæsthesia. It caused pallor, vertigo, vomiting, general numbness, pulse weakness, difficulty in swallowing, chest oppression and dyspnœa.

Dr. Heinmann cited case of a melancholic female to whom he gave 2-7 of a grain, subcutaneously. In five minutes she became very maniacal, continuing nearly an hour.

Schnyder reported case of a druggist who took two doses of ¾ grain each, 45 minutes apart, for relief of headache, causing loss of sensation, trembling of hands and feet, spasms, cold extremities, thready pulse of 150, labored breathing, intense headache, jactitation, gesticulation and delirium.

Bresgen put a pellet of cotton wool, moistened with 4 to 6 drops of a 20 per cent. solution, to the nostril of his wife. It caused chilliness, nausea, unsteady gait, excitement, followed by depression, difficult articulation, and restlessness, which continued for a whole night.

Dr. F. Tipton reported to me the case of a vigorously healthy female, in whom he injected 4 minims of a 4 per cent. solution for local anæsthesia. In five minutes she was "deathly pale, vomiting, feeble frequent pulse, sighing, hiccoughing, and complaining of great numbness with a sense of impending death." Symptoms persisted three hours.

Heymann observed the case of a boy, aged 10, in whom cocaine applied by brush to larynx, caused apathy, continuing five hours.

Minney noted two cases of toxic effect from repeated applications of a 4 per cent. solution to the nostrils.

Dr. Howell Way gave me details of four cases observed by him, in which 5 to 60 minims of a 4 per cent. solution, instilled, or injected for local anæsthesia, caused toxic symptoms—blanched face, blue lips, aphasia, dyspnœa, hallucinations, delirium and unconsciousness.

Dr. Geo. N. Monette—*Journ. A. M. A.*—noted three cases occurring in dental practice, in which 2 to 4 drops of a 20 per cent. solution injected in the gums caused vertigo, blindness, cold perspiration, and inability to walk—"completely unnerved; acted as if deranged."

Dr. R. M. Griswold informed me of a lad, aged 15, in whom he injected 15 drops of a 4 per cent. solution for local anæsthesia. In four minutes patient complained of faintness, vertigo, had stertorous breathing, with thready pulse of 160, and became blind and unconscious.

Manheim noted a woman in whom the subcutaneous injection of two decigrammes caused dyspnœa, irregular and suspended breathing, dysphagia and agrypnia, lasting thirty hours.

Gougenheim has collected a number of cases in which cocaine solution, applied to the throat, was followed by urgent symptoms.

Conclusions—

There is a lethal dose of cocaine.

This dose is uncertain.

Toxic effects are not rare.

They may be sequence of doses large or small, in patients old or young, the feeble or the strong.

This risk should induce caution.

Antidotes should be at command.

These are nitric of amyl and hypodermic morphia.

THE MANAGEMENT OF ANTERIOR AND POSTERIOR DISPLACEMENTS OF THE UTERUS.* By J. Halliday Croom, M.D., F.R.C.S.E., Physician to, and Clinical Lecturer on Diseases of Women, Royal Infirmary, Edinburgh.

I am fully alive to the responsibility which anyone incurs in venturing to lay down definite lines of treatment concerning anterior and posterior displacements of the uterus, for I believe I am safe in saying that upon no subject in gynæcology has greater diversity of opinion existed, and upon none have more opinions been expressed with equal confidence.

This subject has been the bone of contention between different schools of gynæcology for many years. That this should be the case is easy of explanation, and that for various reasons: 1. Because many teachers and practitioners have regarded the conditions as merely mechanical, and directed their treatment accordingly. 2. Others have considered the conditions as the result of inflammatory action, and their treatment has been in strict accordance with their views. 3. Others, perhaps the largest class of all, have regarded symptoms alone, and treated the conditions empirically. 4. It must be further kept in view how frequent are deviations in the position of the uterus, and how prone we are to sieze any seemingly pathological condition as an explanation of symptoms and to treat it vigorously, when the condition is all the time only a coincidence, not a cause.

Now, in venturing to offer to you a sketch of the treatment of the displacements under consideration, I would have it clearly understood that anterior and posterior displacements occur in two great groups:

1. Displacements in virgins or nulliparæ.
2. Displacements in parous women.

In regard to the first class, I am inclined to look upon them, speaking generally, as being congenital conditions; the anteflexion being in the direction of non-development, and the retroflexion in the direction of deformity. These conditions in virgins are not infrequently associated with diseased conditions of the annexa, and when they are it is the inflammatory condition of the annexa which requires treatment, and not the congenital deformity or non-development. A well-marked illustration of this came under my observation lately when a patient had for eight years been under treatment with pessaries for an anteflexed undeveloped uterus. Her distress was so great and persistent that I removed the ovaries, which were extensively diseased, and the woman has had comfort ever since, the uterus still remaining anteflexed.

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* Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association held in Dublin, August, 1887.

The progress which gynæcology has made in recent years in advancing our knowledge of the uterine annexa has shown conclusively that many cases of pain and dysmenorrhœa which were formerly attributed to uterine displacements are due entirely to conditions of the ovaries and tubes independently of a concurrent displacement which may mean nothing. Deviations in the position of the uterus of minor degree give rise in the single woman to no symptoms, and require, therefore, no treatment. Marked versions uncomplicated with some pathological condition, such as a fibroid, are rare in single women, and when uncomplicated give rise to very slight symptoms, and need no mechanical interference. When the flexion backward or forward is very acute, I do not deny that it may be associated with severe dysmenorrhœa. Even admitting that these displacements in virgins give rise to some discomfort, what treatment is at our disposal?

Vaginal pessaries are seldom if ever curative, and intra-uterine pessaries are surrounded with such risk in the direction of inflammation, hæmatocele, and ovaritis, that so far as I am concerned I have discarded their use altogether. Let it be distinctly understood that I by no means wish to say that, in the hands of an experienced gynæcologist, there are not cases, especially of retroflexion in virgins, in which the pressure symptoms from hypertrophy and enlargement are to be remedied in no other way than by stem pessaries, but these cases are, so far as my experience goes, extremely few, and do not need to be discussed in a general view of the case. It is only fair to say that intra-uterine stem pessaries have within my knowledge, in some exceptional cases, rendered benefit; but on looking back over an experience of nearly twenty years I mean to say that I have known them do more harm than good, and as a teacher of gynæcology I have found it my duty to warn students and practitioners against their use.

But the question naturally arises as to the cure of dysmenorrhœa, which unquestionably is often associated with, although not necessarily dependent on, these displacements. Is no mechanical treatment to be adopted? Now, upon this point there seems to be too great a tendency to local interference for dysmenorrhœa in virgins. I should withhold local treatment altogether unless its severity be such that after all other means failed, it interfered with a rich woman's social engagements or a poor woman's means of livelihood, for it must always be kept in view that dysmenorrhœa is but a relative term, When, however, local examination and treatment become necessary, then vaginal pessaries are of little avail, and intra-uterine. stem pessaries are unsafe. Dilatation of the cervix with a dilator bougie or an occasional passage of the sound, with the persistent use of the hot vaginal douche, will often effect a cure both effectively and safely. Here I must enter a caveat against the indiscriminate use of the sound and dilators, unless accompanied by careful precautions; and these are (1) that there be no recent or remote peri-uterine inflammation; (2) that the greatest care be taken as to the perfect cleanliness of the instrument.

Much as we owe to the sound, yet I feel sure that its indiscriminate and routine use has been a fertile source of uterine mischief.

In a word, then, in unmarried women and nulliparæ, with some exceptions too few to affect the general statement (the conditions being usually congenital), vaginal pessaries are of no avail, and intra-uterine are always dangerous and usually hurtful. When aggravated dysmenorrhœa is concurrent with a simple displacement, then the use of a sound, bougie, or dilator, along with hot water, will often effect a cure.

If there be the least pathological condition to be found in the annexa, there should be no mechanical treatment, but only the hot douche.

With regard to parous women the case stands differently. In them, unlike the others, the displacements are usually, if not always, acquired. In the case of anteflexion and anteversion, which in parous women are so often induced by various forms of peri and parametritis, and by inflammation of the utero-sacral ligaments specially, mechanical treatment in the shape of pessaries is seldom indicated. The sphere for anteversion and anteflexion pessaries in parous women—if, indeed, they have a sphere at all—must be when the displacement does not depend upon any inflammatory condition outside the uterus, but is solely due to an increase in its weight. Even in such cases, which are rare, the trouble and annoyance to both physician and patient attending their use is more than sufficient to outweigh their temporary comfort.

Of stem pessaries in forward displacements of the uterus in parous women, I have no experience, and I have yet to see the case in which I consider their use desirable. The majority of these anterior displacements give rise to very unimportant symptoms. When they do, the symptoms are due to some inflammatory products outside the uterus, and the treatment is to be directed to its removal (1) by the hot vaginal douche; (2) by blisters; (3) by iodine applied to the vaginal roof; and (4) by small doses of iodide of potassium and perchloride of mercury internally. Sometimes a soft glycerine ring pessary, by relieving tension and elevating, may do good, but as a rule even this is contra-indicated.

Coming now to posterior displacements in parous women, namely, retroversion and retroflection, we are bound to recognize the fact that they are specially prone to arise mechanically. This will appear obvious if we consider the frequency with which these conditions occur after pregnancy as a result of imperfect involution, dorsal decubitus, increase in weight, and too early rising.

The origin of these parous posterior displacements being usually, though not always, mechanical, and the symptoms to which they give rise, such as sterility, leucorrhœa, menorrhagia, and pressure, to a greater or lesser extent being well recognized, their treatment must be mainly based on mechanical principles.

1. Tone must be given to the uterus by the use of ergot and hot-water douching.

2. The uterus must be carefully adjusted in one of several ways: (*a*) by pressing up the fundus; (*b*) by pressing back the cervix; (*c*) by the genu-pectoral position; (*d*) by dragging down the lip of the cervix with a volsella; and lastly, by the sound. In any case, accurate and careful reposition of the uterus in any of the ways I have mentioned is essential. I place the sound last because I really think that the bimanual replacement of the uterus is the safest and most thorough, and because the introduction of any body into the cavum uteri is always to be avoided when practicable.

3. The uterus must be retained in position by a pessary. In the case of a well-marked retroversion, a well-adjusted Hodge, or some of its many modifications, will be found to act efficiently, whereas in the case of a well-marked retroflexion the ordinary ring pessary will act better than the Hodge. The Hodge in such circumstances is inapplicable because of the difficulty of adjusting it so as to act with much advantage on the fundus, and it is apt to get into the sulcus between the cervix and uterus, and so aggravate the condition it was intended to cure. In such cases the ordinary ring pessary, by elevating the whole uterus, will give most relief.

In some aggravated cases of acute flexion with hypertrophy, stem pessaries may, under exceptional circumstances, be required, but this must always be regarded as a *dernier ressort.*

In that class of cases—which is exceedingly frequent—where there is some degree of flexion and version combined, the Hodge will most frequently meet the requirements of the case. Should there be any adhesions or any ovarian prolapse, the soft india-rubber glycerine ring will be most generally serviceable.

Dr. Lombe Atthill expressed his disbelief in anteflexion as a disease, or even as a condition demanding treatment If it occurred in connection with dysmenorrhœa in a multiparous woman, and depended on uterine causes, those causes would generally be found to be a conical cervix and a contracted cervical canal. The virgin uterus being naturally anteflexed, pessaries in such cases were useless, and stems most objectionable. Cases of retroflexion were always acquired, and in many of them a pessary, such as a Hodge, was very useful, and a great aid in curative treatment, but it must never be looked on as being itself curative; in some cases, the retroflexed fundus pressed against the rectum, and interfered with defæcation. In these a well-adjusted pessary often gave marked relief; but the mere fact of the uterus being retroflexed, provided that it caused no discomfort or symptom, did not necessarily demand treatment. Dr. Barnes said Dr. Halliday Croom objected to Hodge's pessary in extreme retroflexion, because it got between the cervix and the retroflexed body, and resorted to the ring pessary. Now he (the speaker) contended that all depended upon a proper choice of pessary. The true idea of a good pessary was Hodge's; it must act as a lever, and, therefore, the uterus must be movable, and the pessary must move with it, forming, as it were, part of it; and for this it must be well adapted to the particular case.

The ring pessary had become to him an abomination; it stretched the vagina, weakened the natural supports of the uterus, and thus left the patient worse than before. On the other hand, by first reducing the uterus, the patient lying on her hands, a gentle touch of the finger would push the fundus over to the left side of the promontory, where it would easily rise to its position, and then a glycerine-pad pessary passed in would keep the fundus from falling back.

Dr. Barnes believed that cases of distress from anteflexion were quite rare, and he had seen good from Graily Hewitt's cradle pessary, but great care was required in adapting the pessary to the case. With reference to the statement that, before applying a pessary, you must reduce the congestion or swelling of the uterus, that was attempting what could not be done. The removal of congestion depended on keeping the uterus *in situ*. All depended upon judgment in selecting the pessary. Dr. John A. Byrne said that whilst he had learned a great deal from Dr. Barnes, he could not agree with him about the non-necessity of previously replacing the uterus. (Dr. Barnes here explained that he did not mean to assert this.) He (the speaker) had a good deal of experience of uterine affections, and he was of opinion that retro-displacements were very frequent, whilst anterior displacements were extremely rare.

No doubt this displacement was sometimes observed in those cases where the uterus and appendages were bound down by old inflammatory products; but as an originally abnormal displacement, it was in his opinion extremely rare. He could not agree with Dr. Atthill, even in cases where a retroversion or flexion was observed, and where no urgent symptoms were manifested, that still he should not attempt replacement; the reposition and retention could not by any possibility do any harm.

We should do all in our power to remove any hyperplastic uterine condition, although he was of opinion that too much importance was attached to this so-called metritis; and in an organ like the uterus we should expect that there must be occasionally engorgement, and perhaps hyperplasia; but he thought that there was a good deal of exaggeration on this subject. He entertained a very strong objection to the use of the stem pessary.

There was one circumstance that occasionally accompanied retro-displacement, namely: Sterility; when in consequence of the curvature the woman did not conceive, the replacement had in his hands been attended by the most beneficial results. Dr. More Madden said the importance of flexions in relation to the causation of sterility was a subject brought daily under his observation, and one which could not be too strongly insisted on; for in the great majority of cases of sterility and dysmenorrhœa, whether there was stenosis of the cervical canal or not, he was firmly convinced that any operative treatment would generally be useless unless the co-existing displacement or flexion were at the same time remedied, as either might be by a properly adjusted, well-fitting Hodge lever pessary. Dr. William Duncan said it always seemed to him remarkable that, when gynæcologists discussed uterine displacements, some considered that all cases required mechanical treatment, and others deprecated any treatment whatever.

Dr. Duncan, whilst admitting that cases sometimes required local treatment, considered the majority of cases of versions or flexions caused *per se* no trouble, and required no treatment. He thought that it was bad practice to introduce a vaginal or stem pessary in any case of anteflexion, but that the raising up of the uterus in the pelvic cavity by a Hodge or ring pessary in cases of backward displacement relieved the circulation in the uterine and ovarian veins, and thus did good. He did not believe that a pessary ever cured a version or flexion. He thought that a grave responsibility rested on teachers who practised and advised the frequent use of pessaries in the treatment of versions and flexions. Dr. Routh said no one would think of treating a case which had no symptoms. Patients came to us when they had severe symptoms which required treating; but even here pessaries were not always to be at once applied. Simple measures, such as local depletion, purgatives, etc., should first be tried; if these failed, then pessaries might be tried. As to stem pessaries, they were condemned mostly by those who had never used them, or only to a very small extent.

If proper measures were taken at first to prevent inflammatory complications, and the stem pessaries were not too long, and rest were insisted on for some days after their application, accidents were few and far between. Dr. Illingworth endorsed Dr. Barnes's remarks upon the importance of the mechanical treatment of uterine displacement, and bore testimony to the value also of the stem pessary, and particularly to that form invented by Dr. Gordon Black, of Harrogate. He had used this in two cases, which had only been partially relieved with Hodge's pessaries, but which were rapidly relieved by this form of stem. Dr. M. Cameron said cases of displacement did not remain as when first met with, but went on from bad to worse unless properly treated. He would also like to state that satisfactory results had been obtained in Glasgow from shortening of the round ligaments, the use of the tampon and hot-water injections. He had every confidence in the use of pessaries. Dr. W. J. Smyly said the uterus was maintained in position by intra-abdominal pressure, but its displacement was prevented by the ligaments.

When the latter were subinvoluted, then they could not perform their functions when the uterus was replaced, so that the intestines came to press upon the posterior surface ; a Hodge's pessary, by practically shortening the utero-sacral ligaments, would prevent its displacement. When the uterus was in position, and the pessary acting properly, the fundus was about three inches removed from the posterior bar, and therefore to speak of supporting the fundus was erroneous, and to invent soft pessaries filled with glycerine, so as not to hurt it when tender was unnecessary. Dr. A. Wallace said he agreed almost entirely with Dr. Halliday Croom's methods of treatment. There was one plan which had not been noticed—namely the use of tampons, which were first used by Marion Sims.

These were made by saturating cotton wool with glycerine, which might be medicated by various substances, as astringents, antiseptics, etc. He had used this method for many years as a preliminary to the use of a pessary. The pessary which he always used for cases of posterior displacement requiring mechanical support was the Albert Smith's modification of Hodge's, made of soft, pliable metal which could be bent and fitted according to the requirements of the individual case. Dr. J. Wallace (Liverpool) referred to the difficulty of discussing this large subject in the short time permitted.

As a teacher and practitioner he had been guided by certain principles. First, the pathological conditions, and secondly the mechanical, were to be observed and treated as stated *seriatim*. But no case could be scientifically put under treatment unless its etiology, as well as its morbid conditions, pathological as well as mechanical, were determined.

In virgins displacements were often produced by straining at stool, by prolonged standing, as in shop girls, schoolmistresses, and in ladies who followed fashion in tight lacing, dancing to excess, and a relaxed muscular system and health generally. Antiflexion of cervix, the os uteri pointing forward to the pubes, slight procidentia of the body of the uterus, and retroversion of the fundus uteri, often retroflexion—in short, the sigmoid uterus. This form did not always give rise to symptoms, but they came at last, local or reflex, and required treatment.

These might be cured by constitutional and local treatment without pessaries. In married women with sterility, posterior section of cervix would frequently cure. In women who had had numerous children in a few years, sub-involution of the uterus and of the Fallopian tubes and ligaments, with diseased conditions of the endometrium, was common.

Dr. Wallace drew particular attention to the open Fallopian tubes, which he had found to be almost the rule in these *post-partum* cases of displacement. Engorgement might depend upon flexion, but he felt sure it arose from displacement. Local treatment such as the hot douche, applications to the cervix according to the intensity of the morbid conditions, and sedative pessaries would relieve the local tenderness, after which a pessary adjusted to the requirements of the individual case might be safely placed. He confessed that he was surprised at the statement that pessaries did not cure. They certainly did, provided the pathological conditions were also cured.

Dr. Grigg stated he quite agreed with all that fell from Dr. Wallace and Dr. Smyly with reference to the important function the ligaments performed in relation to the retention of the uterus in its proper position, and instanced cases of primiparous women, whose uteri were perfectly normal antecedent to pregnancy, recovering from the puerperium with retroversion, coupled with the descent of the whole pelvic organs. With regard to Dr. Wallace's statement that he could pass a uterine sound through the Fallopian tubes shortly after delivery, this Dr. Grigg controverted, and stated he had never succeeded in passing even a probe through the Fallopian tube in the cadaver of women confined within a few hours to three or four weeks.

ABSTRACTS.

Influence of the Nervous System on Animal Heat.—Notwithstanding the great and generally recognized influence of muscular contraction on the production of body heat, according to a paper in a recent number of Virchow's *Archiv*, by Dr. U. Mosso, a young Italian physician, the influence of the nervous system is still greater. In his experiments he observes that dogs that had run to exhaustion showed no increase of body heat whatever. That if the dog were calm and the labor not too great, the temperature was not heightened by muscular contractions; it was rather lowered. That during the rest that follows labor in dogs there is a noteworthy fall of temperature below the normal. The author also made observations on himself during an arduous walk of one hundred killometres in two succeeding days. On this occasion a rise of temperature took place that reached a maximum of 38.8° on the second day, and was still maintained on the day following. He is of opinion, however, that his body temperature during the walk was not commensurate with the great muscular force expended. If frogs are poisoned with minute doses of strychnine, and every precaution is taken against exciting reflex tetanic movements, it is found that the temperature is considerably heightened without any contribution thereto on the part of the muscles, as they do not contract. Further experiments led him to believe that the increase of temperature of frogs when poisoned by strychnine was less due to any tetanic contraction of muscles than to the great irritability of the nervous system. The temperature of frogs was raised by strychnine even when they were in a state of paralysis from curare, and it rose even in spite of the most complete motionlessness of the curarized frogs. The rectal temperature of a dog paralyzed by curare was raised to 3° by excitation of the nervous system by subcutaneous injection of strychnine. When we irritate a nerve two things occur: muscular contraction, and increased activity of the chemical processes upon which the rise of temperature depends. Curare is a substance, therefore, that paralyzes the motive power of nerves, but not their thermic action. There are other poisons, on the other hand, that have an exactly opposite effect. When, for example, chloral hydrate is given in large doses, it is no longer possible to raise the temperature by any of the agents that without it are capable of increasing the body heat. Muscular contraction is not abolished, but the temperature steadily falls.

The influence of pain on the body temperature is to raise it while the pain lasts. Experiments showed that by means of pain a rapid rise of temperature could be induced, reaching to about 1° Cent., care being taken to prevent cooling at the same time by uncovering the body. The influence of the emotions was still more remarkable. In dogs the rectal temperature varies more easily than in the human species. The sight of food or of another animal is sufficient to raise the temperature in the canine race. The author supposes this extreme variableness to be the cause of the different statements regarding the temperature of the dog. Startling occurrences, such as the firing off of a gun, raised the temperature a degree C. The same thing occurred with pigeons, and he noticed his own temperature was raised a degree by great and joyous excitation (*naen einer starken freudigen erregung*). The practical considerations arising from these experiments are not unimportant. If the body heat of a healthy individual can be disturbed by physical excitement, it is much more likely that the temperature of an invalid—for instance, a phthisical patient—will be influenced by the same causes. The experiments afford one more argument in favor of the door of the sick room, especially in severe cases, and after parturition and operation, being jealously guarded by the medical attendant. The subject is worthy of further investigation.

DR. J. BRAXTON HICKS makes the following *resumé* of his paper on the "Contractions of the Uterus During the Whole of Pregnancy, and Their Value in Diagnosis of Pregnancy, Both Normal and Abnormal:" "As a brief *resumé* of my papers on the subject, I may add: 1. That during the whole of pregnancy the uterus contracts at intervals, varying much, but commonly from five to twenty minutes, remaining so for a shorter time—say from three to five minutes. 2. If we place the examining hand at the time of contraction on the uterus, it will be firm, pear-shaped, and the fœtal parts not readily, if at all, detectable; if we place our hand on during the state of rest, or allow it to remain on till the firm state is passing off, then the outline of the uterus is indistinctly felt; sometimes it cannot be felt at all, while the fœtus is to be more or less clearly made out, and can often be pressed with the fingers outside into various positions, even as early as the fifth month. 3. By noting these facts we are enabled with ease in general to decide as to the existence of normal pregnancy, to diagnose between this and various tumors, both uterine and abnormal, between pregnancy and distended bladder, and other conditions easily called to mind by the practitioner. 4. That these intermittent contractions have the physiological use of emptying the loaded uterine veins, changing highly carbonized blood for that more aerated. 5. That from observations I have made I am inclined to think that there is some pretty constant relationship between the accumulation of this highly carbonized blood and the fœtal movements, and also between the fœtal movements and the uterine contractions. Finally, I can confidently recommend the consideration of this additional help in the recognition and diagnosis of pregnancy as one easily learnt and readily applied. It has in my own practice proved to be of the greatest service for many years."

SARCOMA OF THE FEMALE BREAST.—Dr. Samuel W. Gross, Philadelphia, in the *American Journal of the Medical Sciences*, presents a study of 156 cases of sarcoma of the female breast, which will be all the more interesting to those familiar with the chapter on sarcoma in his work on "Tumors of the Mammary Gland," in which is made the best existing attempt to determine the relations between the minute features and the clinical character of sarcoma of the breast.

Of the varieties of sarcoma, he says the spindle-celled, which include the fibrous, constitute 68 per cent., the round-celled 27 per cent., and the giant-celled 5 per cent. Of the subdivisions 50 per cent. are cystic, including the barren and proliferous cysts; 50 per cent. are solid or monocystic; 33 per cent. are adenoid, the glandular structures consisting principally in the spindle-celled growths; 12.80 per cent. are myxomatous, the combination being almost peculiar to the spindle-celled and cystic tumors; 7.69 per cent. are telangiectatic and hæmorrhagic; 7 per cent are cystoid, or the seat of softening cysts; 2.56 per cent are osteoid; 2.56 per cent. are calcifying; 1.21 per cent. are cartilaginous; 1.92 per cent. are alveolar; 1.21 per cent. are lymphoid; and 1.21 per cent. are melanotic or pigmented.

Circumscribed sarcomata, like other encapsuled neoplasms of the mamma, are ovoid, rounded or spherical, lobulated or bossed, seldom smooth and uniform; the surface irregularities are most marked in the cystic variety. They are not, as a rule, attached to the gland, but push it aside, compress and flatten it, or cause atrophy of the gland. The pure spindle-celled and giant-celled tumors are firm, like fibromata, while the round-celled are soft and elastic; but in about one-third of all the cases the spindle-celled are soft, in which cases they are composed of small fusiform cells, or have undergone myxomatous or fatty transformation, or are the seat of interstitial hæmorrhage. In about one-sixth of all the cases the round-celled are hard, when they are usually rich in fibrous intercellular substance; they are therefore not synonymous with soft, medullary, or encephaloid sarcomata, though they are generally softer than the spindle-celled sarcomata, on account of their structure. As important points in the diagnosis between the small adenoid spindle-celled growths (adenoid sarcomata of Billroth) and fibromata of the same size, it may be mentioned that of the five specimens of the former which Dr. Gross has extirpated, all were lobulated, firm, elastic, adherent to the gland, grayish-white in color, and tough on section; while the fibromata are hard, merely nodular, less adherent to the mamma, white, and more compact and tough on section.

It is infrequent that mammary sarcomata inflame and suppurate, but ulceration of the superjacent tissues occurred in 18.59 per cent. of the cases collected—more than double as large a proportion as in fibroma. As with fibromata, the ulceration seems to be the result of inflammation and gangrene, or merely rupture of the attenuated skin, rather than of infiltration by sarcomatous cells; but in one case it was due to exploratory puncture. In 10 per cent. of the cases the ulcer is in the form of a sloughing patch. While fungous protrusion almost always follows perforation of the skin, in one case the ulcer healed. The fungous protrusion, usually an intracystic growth, varies from one-half up to five inches in diameter, exhales a sanguinolent and fetid discharge, which may become more or less purulent; the protrusion is not very prone to free hæmorrhage or sloughing. The ulcer is usually circular, and the surrounding skin is generally not only free from coloration, but it is not attached to the fungus, and is everted, or rather elevated, on its sides. Sometimes there are several ulcers, separated by bridges of sound tissue. Ulceration occurred in 7.69 per cent. of solid sarcomata, and in 18.76 per cent. of cystic sarcomata, and was met with in 25 per cent. of the giant-celled, 23.58 per cent. of the round-celled, and in 17.58 per cent. of the spindle-celled sarcomata.

Of the 156 cases, only 10 tumors were multiple; sarcomata of the breast are therefore generally solitary. They are most commonly situated in the vicinity of the nipple, and are usually found at the upper and outer quadrant of the breast when they arise from the circumference of the organ. If central they are generally cystic; while when they arise from outlying lobes they are usually solid. In either case they are disposed to extend beyond their capsules, those of central origin invading the whole gland and the surrounding soft parts; while peripheral sarcomata infect the latter structures and finally invade the whole breast. Sometimes they are pedunculated, but usually they form broad-based hemispherical tumors. Of the cases in which the age was given (148), 1 occurred as early as 9 years, 14 between 10 and 19 years, 16 between 20 and 29, 40 between 30 and 39, 39 between 40 and 49, 23 between 50 and 59, 14 between 60 and 69, and 1 at 75 years. Only 4, (2.70 per cent.) appeared before the age of 16, or during the formative stage of the mamma; 67 (45.27 per cent.) between 16 and 40, the period in which the breast and genitalia are in most active function; and 77 (52.02 per cent.) during the period of functional decline—after 40 years. The average age for the development of the spindle-celled tumors was 36 years 7 months, for the giant-celled 47 years 3 months, and 48 years for the round-celled. The average age for cystic sarcomata was 38 years 5 months, and for the solid sarcomata 43 years. "Hence it may be said that spindle-celled and cystic sarcomata are metaplasias of the functionally perfect mamma, and round-celled, giant-celled, and solid sarcomata are metaplasias of the declining gland." The etiology of sarcoma is certainly most obscure; its development can rarely be traced to injury or disease; it is uninfluenced by hereditary predisposition, and the social state and menstrual irregularities or arrest play no important part in the production of the neoplasm.

As regards the increase of sarcoma, it is more rapid than that of any other neoplasm, but it is very varied, being independent of the age of the patient, and influenced by the structure of the tumors, by their degeneration, and by the absence or presence of cysts. Like cystic fibroma, sarcoma may remain stationary and of small size for a long time, when, without apparent cause, it suddenly begins to grow, and so rapidly that a nodule that has been 15 years in attaining the size of a walnut reaches that of a double fist in three months; or one that has been quiescent and of the size of a walnut for 25 years, suddenly begins to grow, and measures 18x14 inches in three years. In these cases rapid accumulation of fluid and solid contents in the dilated ducts may be looked for; or the increased size may be due to myxomatous changes and interstitial hæmorrhage. The influence of increased flow of blood to the mamma, which has been assigned an etiological rôle by some authors, is not borne out by the cases analyzed by Dr. Gross. In short, the growth of sarcomata of the breast is so capricious that no average rate of increase can be assigned to them. "On the whole, however, one is justified in concluding that the small-celled, the cystic, the myxomatous, and the telangiectatic increase more rapidly than the large-celled, the solid, and the pure tumors." Elevation of the temperature of the breast may be said to be characteristic of telangiectatic and rapidly proliferating growths. Careful investigations in regard to temperature may establish some useful points in the diagnosis of connective tissue tumors.

In 1880 Dr. Gross established the fact that all the varieties of sarcoma are malignant, and a study of 92 of the 156 cases now under consideration confirms that view. Of the 92 cases, 1 ran a natural course, being a case of round-celled sarcoma of both breasts that proved fatal, with presumed secondary deposits, in 7 months from its first appearance. The remaining 91 were operated on. Of these 32 were well from periods varying from 1 month to 10 years and 3 months; in 42 there was local recurrence; in 8 there was both regional recurrence and metastases; 3 recurred, with evidences of general dissemination; in 4 cases there were metastases, and in 2 cases presumed metastases without recurrence. So that 64.83 per cent. of these cases were malignant. Thirty-two patients were well for an average period of 49 months and 10 days after the operation, the disease having existed for an average of 69 months and 11 days before operation; making the mean life of these patients almost 10 years. Of the reproductions 57.7 per cent. took place in 6 months, "while after 12 months there were only 13, or 28.8 per cent., and of these there were only 4, or 8.8 per cent. after 2 years. These statements lead to the belief that the chances for the patient are relatively good after the lapse of 2 years, and that the prognosis is all the more favorable as the period of freedom from signs of local contamination prolongs itself." The average date of recurrence was 10½ months, but the histological character of the growth appears to exert a marked influence on the date of recurrence. The average date of the round-celled was 4 months 20 days; for the spindle-celled 11 months 27 days; for the giant-celled 12 months 10 days. Cystic tumors recurred in 8 months 5 days, and simple in 13 months 9 days —a contrast which is "more striking when we state that the average date of recurrence for cystic round-celled growths was 3 months and 4 days, as against 6 months and 8 days for the simple round-celled, and 9 months for cystic spindle-celled as against 16 months for the simple spindle-celled."

The age of the patient and the size and rate of increase of the tumor materially influence the prognosis. Before the age of 35, when the mamma is most active, a small slowly growing sarcoma does not return, while a rapidly growing tumor, especially if cystic, will very likely recur. The cases do not bear out the statement of some authors that the more tender the age the more rapid the growth of, and the more malignant, the sarcoma. The analysis shows that "a sarcoma occurring in a functionally active breast evinces a marked disposition to recur after operation, with less disposition to metastases, while a sarcoma of the declining breast recurs less frequently, but is generalized in a greater number of cases." The histological character and stage of evolution of the tumor also affect the prognosis. While the round-celled are most malignant, metastasis of the spindle-celled variety may be asserted; nor can it be said that cystic sarcomata are innocent or of limited malignancy, as it recurs in more than one-half the cases, and becomes generalized in 1 of every 9 cases. The general and inaccurate statements regarding the malignancy of sarcomata lead to the belief that cystic sarcomata have been confounded with other cystic growths which do not infect the system. Like carcinoma, sarcoma is a malignant growth, but differs from it in less frequent invasion of the skin, chest walls and paramammary tissue; less frequent invasion of the axillary glands; less frequent local recurrence after removal; more frequent metastases found *post mortem;* having a greater average duration of life (81 to 39 months); and more permanent cures (13.18 to 10.39 per cent., 4 years being taken as the period of safety).

Small, slowly increasing fibrous sarcomata are difficult of diagnosis, as they may be confounded with fibromata, especially when they arise at the circumference of the mamma. "The diagnosis is based on their indolent origin, mobility, elastic or unequal consistence, their tendency to ulcerate, the not infrequent discoloration of the skin, and enlargement of the subcutaneous veins, and, possibly, elevation of the temperature; upon the suffering which they awaken late in the disease; and upon their greatest frequency after the fortieth year." Before the age of 16, fibromata and sarcomata are the only tumors met with, the former being twice as frequent as the latter. Fibromata are always solid, and grow slowly; sarcomata are cystic in 75 per cent. of all cases, and medullary in the remaining 25 per cent., and usually grow rapidly. Hence, at this period of life, cystic and medullary tumors are sarcomata. The more complete diagnosis of the varieties of sarcoma, as given by Dr. Gross, is of sufficient interest to give entire on another page.

As regards the treatment of sarcoma, little need be said. "The entire breast, along with any skin that may be invaded, must be extirpated, especial care being paid to the complete removal of every particle of paramammary fat and the fascia of the pectoral muscle, in which tissue experience shows that recurrence takes place. In the event of repullulation, the growths should be freely excised as fast as they appear, as such practice not only prolongs life, but may bring about a final cure." While the recurrent regional disease is more intense than the primary, and other recurrences follow rapidly, removal of the growths as fast as they appear alleviates suffering, prolongs life, averts visceral infection, and may lead to cure.—*The Archives of Gynæcology.*

SUTURE, IMMEDIATE, IN OBSTETRIC LACERATIONS OF THE PERINEUM. (Dr. W. H. Wenning in the *Cincinnati Lancet and Clinic.*)—The following conclusions are drawn:

1. A laceration of the first degree, as long as only the skin is involved, may be left to heal by postural apposition, provided there is no danger of septic infection. If there should be any danger of the latter, although the closing of the wound will not altogether prevent infection by absorption, it will at least lessen this danger, especially with antiseptic treatment.

2. A laceration of the second degree, where the fascia and muscles are torn, ought always to be repaired immediately after the occurrence of the laceration, provided there are no complications on the part of the patient, as extreme œdema of the parts, great bruising, etc. In such an event we cannot expect union by suture immediately. It is necessary either to wait a certain length of time, from a few hours to a few days, in order to give the parts a chance to recover their proper vitality and tonicity, or, after having pared the edges, we may introduce the sutures and gradually tighten them as the swelling subsides.

I would direct attention to the tension of the suture. If it be drawn too tight, the vessels may be strangulated, and the union thus be prevented; if, on the other hand, too loose, as the swelling subsides the surfaces will also recede from each other, and the stitches serve to no purpose. Consequently great care must be exercised in the proper tension of sutures, and, if the parts do not look favorable for primary union, it is better to wait a few hours; then place the patient under an anæsthetic, pare off the edges, and proceed with great care.

3. Lacerations of the third degree cause such a deplorable state of the patient afterwards, that every attempt should be made to repair the accident immediately. Even if we should not be wholly successful, we may be so, at least partly, by converting a laceration of the third degree into one of the second degree, which is vastly more comfortable than the loss of the sphincter power of the anus. If very urgent reasons should prevent us from attending to this accident immediately after labor, we should at least select the earliest possible time to repair the accident, proceeding with all due care and skill; as in the secondary operation.

As to the form and method of suture, the length of the laceration along the external perineum will, as a general thing, be indicative of the extent upward into the vagina. It will be seen that while lacerations of the first degree would require but very superficial sutures, those of the second and third degree must be united by deeper and stronger sutures. If the fascia or the tendinous centre of the perineum be torn, their edges must also be brought together, which can only be done by deep sutures, the depth being proportionate to the extent of the laceration upwards. There can be nothing more reprehensible than the simple cutaneous union of a large, deep laceration. The lower line is truly approximated, but the upper remains open, allowing the fluids to become pocketed, and thus preventing union and causing danger of septicæmia. It is better to leave the rent open to allow at least free drainage. If the rectum and vagina be torn a high distance upwards, it may become necessary to unite each separately.

For ordinary cases I prefer silk, as it gives less discomfort to the patient, is ready at hand, and more easily introduced. It possesses the disadvantage of becoming septic by the absorption of septic material. This may be overcome by laying the strand first in a solution of carbolic acid or corrosive sublimate, and then keeping up irrigation by an antiseptic solution afterwards. Another disadvantage is that it cannot be tightened if found too loose after a while. Therefore it is not adapted to where there is excessive swelling. Silver wire possesses the great advantage of causing less danger from sepsis, and it may also be tightened afterwards by simply giving it an additional twist, but it is less comfortable for the patient, for the slightest move on her part will cause the ends of the wire to strike some part of the body in the united edges. As silver wire is, however, also stronger, it is better adapted for those cases where the suture ought to be introduced at a great depth, as, for example, in complete laceration. If preferred, the wire may also be used for the deep, while the silk thread is employed for the superficial, sutures.

A SÄNGER CÆSARIAN SECTION.—At the meeting of the Cincinnati Academy of Medicine, January 31, 1888, in the discussion on the above operation, Dr. E. S. McKee said it that had been his good fortune last spring to see a case operated on after the Sänger method. The operation was made at the *Charité* Hospital by Gusserow, of the University of Berlin.

The patient, Katrina H., æt. 18 years, of a very blond type, was quite short in stature; she was rachitic; did not walk until 6 years old, and only then with the assistance of an apparatus. Her menses appeared at 14 years, but were always irregular. She came into the *Charité*, and was taken with labor. Her pains continued for two days, becoming very severe toward the last. Measurement showed the following:

Spines of the ilii	24.5 cm.
Crustæ	25.5 cm.
Trochanters	30.0 cm.
Conjugata externa	17.5 cm.
Conjugata diagonatis	7.0 cm.

These facts in the case led Gusserow to determine on Cæsarian section. Owing to the excellent results obtained by Sänger, Leopold and Crede, the Sänger method was chosen.

Though the antiseptic precautions were considerable, they were not so great as is customary in Berlin for cases of laparotomy. The operator and his assistants took complete baths, put on fresh linen, and wore no clothing which had been about infectious material. The visitors were not required to bathe or change their clothing, but were in honor bound not to come had they been in contact with infectious matter within the last 24 hours. The abdomen was washed with a solution of bichloride, 1-1,000, special care being given to the umbilicus.

The patient was placed under chloroform, the abdominal incision made, commencing 3 fingers' breadth below the umbilicus and extending within the same distance of the symphisis pubis. The abdomen being opened, the uterus presented nicely, and the walls closed behind it. A rubber tube the size of the finger was passed tightly around the uterus just below the child's head, provisionary sutures were passed through the addictors to keep the bowels from protruding. This will be accomplished unless there is considerable vomiting. In this case this unpleasant symptom was present, and the bowels required retention by means of warm cloths. The uterus was opened with an incision beginning near the fundus and extending down to the uterine segment, *i. e.*, where the peritoneum becomes movable and sits loosely. A large quantity of dark red blood shot out through the opening, showing that the placenta was in the line of the incision. Cutting through this, the liquor amnii burst forth. The hæmorrhage which now appeared was controlled by drawing tighter on the rubber tube. The child was then removed, and found alive and mature, though poorly nourished. It weighed 2.885 grammes, and was 45 cm. long. The placenta and decidua were loosened from the uterus, and great care exercised to entirely clear the uterus of all such matter. The cavity was then strewn with iodoform. The incision was then closed with 8 silver wire sutures, which passed through the muscles, but did not penetrate the decidua. Sixteen silk sutures were then inserted, piercing the peritoneum only. Complete coaptation of the parts was carefully made. A resection of the muscularia was not found necessary in this case, as the peritoneum overlapped the muscle; in such event the resection is omitted. Hæmorrhage at four points was checked by ligature. The uterus had remained relaxed since the removal of the child until this period, but was now made to contract by the application of sponges soaked in hot sublimate solution. The suture line was powdered with iodoform. The patient recovered, left her bed in six weeks, and severe vomiting was the only untoward symptom. The child lived. Gusserow is much pleased with Sänger's method, as are Crede and Leopold. The great success of the Cæsarian section in Germany is due to the early diagnosis and intervention in the cases by experienced operators.

ORIGINAL CORRESPONDENCE.

WOUNDS FROM THE BITE OF THE COMMON COPPERHEAD SNAKE (TRIGONOCEPHALUS CONTORTRIX).

Volcano Wood Co., W. Va.

Editors GAILLARD'S MEDICAL JOURNAL:

Dear Sirs: In this region wounds from the bite of the copperhead snake are not uncommon, as every year I hear of a case or so in the country around this place, most of which cases do not fall into the hands of a surgeon.

It has been my fortune to meet with five cases of wounds of this character; one of these I considered doubtful, and I have inquired among the farmers and others living in this section as to other cases, the symptoms, treatment adopted, and results from the injury, especially as to whether there were any recurring symptoms in after years.

In August, 1886, riding on my way home, I was requested to stop and see Mrs. J———., a middle-aged woman who had a couple of hours before been bit by a copperhead snake; the snake, a large one, had buried his fangs in the outer side of dorsum of left foot. I found that a ligature had been applied below knee; the foot was much swollen on its outer aspect, the leg was also considerably swollen; she was suffering much pain, was in a state of mild delirium, was vomiting at frequent intervals, pulse of fair strength, the rate not noted, nor temperature taken. She had taken enormous doses of whiskey and alcohol, I believe eight ounces of whiskey and four ounces of alcohol. It was difficult to say whether delirium and nausea were due to the poison or the remedies taken. As the ligature had been on over an hour, I removed it; applied cold applications of salt water to foot and leg, to combat inflammation, and gave morphia and carb. ammonia internally. Later, sent her a mixture of spts. ammon. arom., in Liq. ammon. acet; and one of morphia, chloral and bromide of potass., these to be taken alternately every two hours. She continued to vomit until next day, when this ceased. The limb was much swollen and painful; there was inflammation of the tissues along dorsum of foot, upwards from wound. She told me that she was about half a mile from home when injured; that the shock was very severe; that she became almost blind and dizzy and could hardly get home, when the stimulants were administered, as before described. I saw her about two hours after the accident; on the dorsum of the foot a gangrene of the skin and cellular tissues resulted; the extent was about one and one-half inches long, and one-third inch wide. The ulcer made by this slough healed slowly. She told me a few days ago that the foot was giving her some trouble, painful and œdematous. In my first cases I was much impressed with the importance of active treatment, the getting rid of the poison by scarification, cupping and sucking of the wound, if necessary, and the free administration of stimulants.

In my first case a man came to my office one night, saying that he had been shortly before bit near his ankle by a copperhead. I could see a small puncture, he was much alarmed, had applied spts. turpentine to the wound, and drank freely of whiskey. He did not see the snake, as it was dark, the scene being on a path through some young undergrowth. I first scarified the wound, then cupped it and I believe cauterized it (this occurred many years ago); also administered some more stimulant, which, with what he first took, intoxicated him, and also vomited him; as a result I had to take care of him for the night. In the morning at early day he felt able to walk; and I did not see him for two or three years. Have always doubted this being a case of bite, but rather one of scare.

My second case was a lady wounded on the palm of the hand, while I believe at work in the garden; was no doubt about this case, as the snake was killed. I treated this case by scarification and cupping, application of a proximal bandage to arm, free administration of stimulants and anodynes, locally cooling applications. There was much pain, some swelling, considerable nervous shock and prostration, partly due I think to fright. Next day she had recovered, except from the soreness of the hand. There was no slough or inflammation of glands, etc.

Shortly after this case, I believe one of the members of our county medical society reported a case treated in the usual active way, as advised in standard works on surgery. In the discussion following, Dr. Harris, of Parkersburg, and Dr. Steere, of Pleasants Co., W. Va., took the ground that there was no necessity of such active treatment; that the danger did not justify it; that cases recovered under all kinds of treatment, and that oftentimes the treatment was the cause of the severe local symptoms, not the injury itself; that fatal results in adults were very rare, if even occurring at all. I believe that not very long after this Dr. Steere himself was a victim (perhaps it was before this). I will give a history of his case later. I determined next time to try to carry out these views, which I did in the case of Mrs. D., aged 23, who was injured in her hand by a good sized copperhead snake, which had entered the house during the night and curled itself upon her clothes on a chair by the bed. On reaching out to take them in the morning, she was injured in the palm of her hand. I was summoned at once. I applied a bandage to the arm, a solution of ammonia to the wound, and gave freely of ammonia and sufficient morphia to control pain. The bandage was removed in less than an hour. The pain was very great and the patient considerably disturbed by fright and shock, but there was no marked prostration, nausea nor any delirium. She made a better recovery I thought than the one previously treated. Since then I have given advice as to treatment to be followed in several cases, but did not visit them.

Dr. Steere, now of Bellaire, Ohio, has lately given me in a letter, the history of his personal experience, as follows:

"Sometime during the spring of 1868, I think it was, I was bitten by a copper snake, in the left hand. The snake was a very large one, one of the largest I ever saw. My treatment consisted of aqua ammonia to the bite; ʒss aqua ammonia, and ℥j of olive oil, taken at one dose as soon after the bite as I could do so. The hand and arm swelled very much during the night; was quite sore for a day or so, as much from the ammonia as from the bite. Now, this was my uniform treatment during my practice in that county (Pleasants Co., W. Va.). I never had any trouble after the hand got over the first soreness, which might have been from four to five days, nor did I ever see any trouble after the parts recovered. I have had considerable experience with snake-bite, and the only trouble was in cases that had taken large quantities of whiskey. In a few cases I had some trouble from that cause, by inflammatory action set up by the whiskey. In a few cases I had to give bromide of potash or something of that kind, but these were symptoms caused by fright quite as much as from the toxic effect of the snake bite. This talk about the yearly return of trouble, change of color, etc., I never saw, nor do I believe one word of it." In three of these cases there never recurred any symptoms in the parts injured, in the succeeding years, as described by Dr. Garrow in his article in the *American Journal of Medical Sciences*, April, 1884, and in the *Medical News*, June 4th, 1887. I have inquired into the history of a number of cases, and only remember one where there were real local troubles due to prior injury from snake bite. This, a woman, suffered with pain and œdematous swelling of the limb which had been injured. I thought the trouble more due to a varicose condition of the veins. I have known of quite a number of cases in the surrounding country where the parties made good recoveries after treatment by free scarification and washing of the wound, followed by application of spirits of turpentine and administrations of whiskey. In one case a farmer nearly lost his leg by ignorantly keeping on the ligature for two or three days. In several cases of children reported to me, recovery resulted without any severe local or alarming constitutional symptoms. A few days ago my distinguished friend, Gen. Thomas M. Harris, M.D., one of our pioneer physicians of this section gave me the following history: "While practicing at Glenville, Gilmer Co., W. Va., in 1857, I was called to see Michel Stump, pioneer settler and early surveyor in that section; he was then about 74 years old; he related that during the active years of his life he had been bitten 19 times by rattlesnakes and copperheads; that for probably some 20 years, in each year in the month of August, he had attacks similar to the attack in which I saw him. There was general œdema of the cellular tissues of body and limbs, a mottled condition of the skin, which was rather cold and clammy, constant nausea, which at times became intense, faintness and great dyspnœa, pulse feeble and rapid, with more or less acute pains through body and limbs; these attacks lasted about three weeks; never had received any benefit from treatment. I gave him Bibron's Antidote; he was relieved and in a week was well. Next year he sent to me for more medicine of the same kind. He told me that it gave him prompt relief again. I never heard of the attacks returning up to the time I left there, and presume that they did not or he would have sent to me for more of the remedy." I often meet a young man who several years since suffered severely at the time of infliction of such an injury on his arm. No physician was called in and for some time his life was despaired of. He tells me that he has not suffered from any recurrent troubles. As to fatal cases, I have asked old residents as to their occurrence, but have never heard of any save one, an infant; this case I could not verify. The reptile has a disagreeable habit of visiting habitations, especially those of the first settlers, where the woods and undergrowth have not been fully cleared off. A friend of mine, relating his experience, said that on three occasions his house received these unwelcome visitors, which were discovered before they could injure anyone. One woman gave me the history of the result of a snake wounding herself on the great toe, and her son on the hand; there was immediately great pain, swelling, and some prostration; treatment was by ligature and free use of alcohol. No physician in either case. A farmer friend living at a great distance from a physician had posted himself as to treatment, and had advised in several cases scarification and washing of the wound; one of his cases, a farm hand, bit in the foot, immediately went to a brook, bathed it in cold water after scarification and next day resumed his work.

The case reported by Dr. Yarrow of a photographer injured near Washington presents such unusual symptoms as to be unique, and creates a strong doubt as to whether it was caused by a copperhead or not, the local symptoms being so trivial for several days, and then the occurrence of severe constitutional symptoms, coming on with the inflammation of the lymphatics of the arm. In all cases I have seen or heard of, the effects are immediate. In describing the effects of wounds of the rattlesnake, Dr. Gross says "the moment the inoculation has taken place excessive pain is experienced in the part, rapidly attended by swelling, which soon diffuses itself extensively over the surrounding surface, and is attended with a livid, mottled appearance dependent upon extravasation of blood into the subcutaneous cellular tissue." Within a few minutes after first manifestation of the local affection marked evidences appear of the absorption of the poison into the system. In case of the European viper, the same author states, "the general symptoms seldom manifest themselves under from three-quarters to one hour." Dr. Yarrow's case reminds me of one where the patient was stung on four places on the hand by honey bees. Severe burning pain followed with no abatement for several days or rather weeks; a small vesicle appeared around the puncture of one sting, which burst and dried up. The burning continued from the sting in spite of cooling lotions, application of ammonia, etc. Lymphangitis supervened, followed by suppuration of the axillary glands, the patient being sick some two months from this affection. In his case the injury was received on May 30, but he did not suffer much pain until night of 31, when there was some constitutional disturbance; on June 1, considerable pain, but no signs of inflammation until June 2, four days after the injury.

This course of the symptoms is entirely different from those given in the other cases, reports of which were so industriously collected by Dr. Yarrow, the poison seeming to be dormant and then to suddenly be absorbed and cause alarming symptoms. These injuries, in the minds of the people are associated with many superstitious ideas, and some of the remedies used are worthy of the pharmacopœia of a Chinese doctor or an Indian medicine man. One is, as soon as possible to catch a chicken, decapitate him, split open the body down the back, and, leaving the entrails intact, bind it firmly over the wound, the entrails next to the wound, and the poison can be seen to be leaving the person in green lines extending to the bite; it will enter the flesh of the chicken, causing a discoloration. Some herbs have remedial virtues ascribed to them. Stimulants and application of turpentine are favorite remedies. Recovery follows all kinds of treatment; in some there are more severe local and constitutional disturbance than in others, no doubt due to size of snake, season of year, number of bites inflicted. Cases recover in spite of the treatment adopted. For instance, cases cited by Dr. Yarrow, where recovery followed the administration of hot lard, or the administration of indigo as an antidote. All this confirms the conclusion given by Dr. Ott (*Virginia Medical Monthly*, February, 1883,) that the venom of the copperhead is weaker than that of the rattlesnake, and I might add, is seldom dangerous to human life, except in cases of young persons.

In conclusion, I would summarize the treatment as follows: At first a bandage around limb, not kept on over an hour, free scarification of injured part and washing in cold water. Then the application of some cooling lotion to combat local inflammation. If there is much constitutional disturbance, prostration, etc., whiskey or carbonate of ammonia in such doses as the severity of the case demands, with morphine, or better still, morphia and atropia combined to relieve the pain. I suggest the atropia because of its stimulating effect on the heart. That except in cases of the greatest severity, it is unnecessary to use injections of aqua ammonia or permanganate of potash, nor necessary to lay open the wound and use severe caustics, as these remedies will add to the succeeding inflammation.

It may be that in other localities the venom of this reptile is more potent and the results from their bites to be more feared than we have found them to be in this section as covered by the experience of nearly twenty years.

W. H. SHARP, M. D., (University of Pennsylvania, '64).

POPLAR GROVE, KY.,
Jan. 5, 1888.

Editors GAILLARD'S MEDICAL JOURNAL:

Dear Sirs: I send you the report of a case of empyema, not that such cases and their successful treatment have not frequently been reported in your JOURNAL, but for the purpose of calling the attention of the profession to a mode of antiseptic dressing after pleurotomy which does away with the necessity of using drainage-tubes or tents, the patient recovering without necrosis of the ribs, contraction of the side, or any other abnormality except a small scar.

In the spring of 1887 Miss ———, aged seventeen years, was taken sick of pleurisy of right side and catarrhal pneumonia, which was allowed to run its course, without treatment, for eight or ten days. I was then called to see her. I prescribed as usual in such cases, and soon there was an improvement in the catarrhal symptoms, but the effusion in the side remained stationary.

All the intercostal spaces became more or less prominent, bulging outward; the pulse small and quick, the face pale, the lips discolored; the body perspiring and the fever continuing, causing me to suspect pus in the pleural sac. I then called for a consultation, and June 12, 1887, Drs. O. B. Yager, of Glencoe, Ky., and H. C. Yancey, of this place, met and agreed with me in diagnosis and the necessity of operating without further delay, provided an exploratory puncture showed pus in the sac. The patient was then placed in a semi-recumbent position, lying on the healthy side. Our hands, the affected side, and all necessary instruments were disinfected with carbolic acid, and the part about to be operated on, anæsthetized by sprays of ether. I then introduced the point of a hypodermic syringe, and on withdrawing it, the needle contained one drop of pus, which was enough to establish the diagnosis.

I then made an incision between the fifth and sixth rib, below the nipple, which gave exit to a very thick, non-offensive pus. It is impossible for me to tell how much pus passed from the side, because the discharge was continuous for a month after the operation; often several ounces would pass while she was asleep. After the operation was over we applied as a local dressing a thin piece of fat bacon about three inches square, and over it and around the body a bandage, which the family were instructed to remove four or five times a day, and each time to clean the side with castile soap and water, and apply a fresh piece of bacon and a clean bandage. The patient was then directed to lie on the afflicted side to favor drainage. She was given elixir phosphate iron, quinia, and strychnia, malt extract and wine. The temperature was reduced to the normal by the eighth day after the operation.

The discharge was very profuse until July 12th (one month after the operation), when it became small and serous until July 21st; then she contracted the measles, and the discharge again became purulent and very profuse until August 2d, when it became small and serous, the discharge becoming less and less until November 1st, when it stopped to return no more. She now weighs twenty pounds more than she did before she was taken sick. Her health is good.

Now, the point which I wish to call the attention of the profession to is the use of fat bacon as an antiseptic dressing, and to prevent union and favor drainage, in the place of drainage-tubes or tents. Meat, as cured in this vicinity, is first salted, then smoked by burning wood under it. Such meat contains creasote and chloride of sodium. All physicians are familiar with their antiseptic properties. I neglected to state that I discontinued the dressing when the discharge became serous, and used it only when the discharge was purulent. A wound cannot heal with such a dressing on it.

This is the second case I have operated on and treated the same way, and with the same result. The first case was reported in *The American Medical Bi-weekly* of July 5, 1879. She also enjoys good health to this day.

I am persuaded that my success has been better than it would have been had I used drainage-tubes or tents, which, if introduced well through the parietes into the pleural sac, act as an irritant, and interfere with the adhesions of the pleural surfaces.

J. W. CLARK, M.D.

[Our correspondent, if he will glance over the following extract from Dr. Gerster's book on aseptic and antiseptic surgery, will see, we think, that quite as satisfactory results, in point of the final issue, and more so, in regard to time and trouble, might be attained by using a drainage tube and regular antiseptic dressings. We noticed that antiseptic precautions were used in making the wound, and that a-septic measures were directed in its after-treatment, viz., a bandage to be removed four or five times a day, which, by the way, would not be necessary with regular antiseptic dressing, and the side to be cleansed with castile soap and water, and we are not inclined to think that the bacon was one of the essentials to his success, unless, perhaps, it had, as the writer says, the power to prevent the closure of the wound. Dr. Gerster says (p. 22) : " The proper treatment consists of timely incision, disinfection and drainage under antiseptic cautelæ. . . . A large-calibred drainage tube, *reaching just within the pleural sac*, is inserted and *is at once secured with a stout safety pin*, to prevent being lost in the abscess. Washing of the pleural cavity with a warm mercurial solution (1 to 5,000), thrown from an irrigator, should be done, until the fluid returns in a limpid state. Then a final flushing with corrosive sublimate lotion, of the strength of 2 to 1,000, should follow ; and good care should be taken to drain off the last vestige of the solution by turning the patient so as to bring the incision nethermost. A very ample, moist dressing should envelop the patient's thorax. As long as the temperature remains normal or slightly elevated, and the dressing clean, no change is necessary. Usually, however, the dressings will be soiled in twenty-four hours, and then they must be changed. But irrigation should not be employed, so long as the patient's temperature is normal. The discharges will gradually diminish, they will lose their purulent character, and they will become watery and scanty. As soon as this is observed the drainage tube should be removed ; and *within four or six weeks from the operation* the cavity will be healed by renewed adhesion of the costal pleura." (The last italics are our own.) These directions are justified by successful cases which the author quotes.—Editors.]

PHARMACY AND THERAPEUTICS.

THE ANTISEPTIC TREATMENT OF DIPHTHERIA.—Le Gendre, of Paris, in the *Archives de Laryngologie*, No. 1, 1887, gives the following formulæ for antiseptic mixtures to be used in diphtheria :

Bichloride of mercury may be given in

Aquæ destillat. - - - -	℥ 3¾
Tinct. aconit. - - - -	*m* 15 to 30.
Sodii chlorid.	
Pepsinæ - - - -	āā gr. ¾
Hydrarg. bichlorid. - - -	gr. ⅙ to 2¼

M.

Sig.—A teaspoonful every hour.

Cyanide of mercury has been employed in the following solution:

Aquæ destillat.	ʒ 15.
Tinct. aconit.	*m* 15.
Hydrarg. cyanid.	gr. 3/10.

M.

of which a teaspoonful may be given hourly.

Iodoform may be locally applied in the following:

Ether	ʒ 6¼.
Balsam tolu	*m* 75.
Iodoform	gr. 38.

In powder it may be mixed with sugar, 1 to 3.

Bromine and the bromides may be given in

Bromin. (pur.)	
Potass. bromid.	āā gr. 8 to gr. 15.
Aquæ destillat.	ʒ 50.

with which the pharynx may be pencilled every two or three hours; it may also be used by inhalation.

Lactic acid is given by Bricheteau and d'Adrian, by inhalations of spray, in solution 1 to 100, as a gargle:

Aquæ	ʒ 25.
Syrup aurant.	ʒ 7½.
Acid. lactic.	gr. 75.

may be employed.

Salicylic acid may be used in

Aquæ destillat.	ʒ 25
Glycerin.	ʒ 2½.
Aquæ lauro-cerasi	*m* 15.
Acid. salicylic.	gr. 4½.

which may be applied upon cotton to the fauces.

Benzoate of sodium has been frequently tested, and is used by Litzerich in the following:

Aquæ destillat.	
Aquæ menth. piper.	āā ʒ 10.
Syrup aurant. cortic.	ʒ 2½.
Sodii benzoat.	gr. 75.

From half a teaspoonful to a desertspoonful hourly.

The following, in pill form, has given good results:

Calcii sulphid.	gr. ¾.
Digitalin.	
Quiniæ arsen.	āā gr. 1/60.

For infants the dose should be but one-half.

Sulphur and sulphides may be prepared for use as follows:

Ol. amygdal. dulc.	℥ 5⅝.
Sulphur. sublimat.	gr. 38.

This may be used as a gargle.

Diphtheritic ulcers may be touched with

Glycerin.	ʒ 15.
Acid. lactic	gr. 45.

Oxalic acid, given internally, may be used after the prescription of Cornillon:

Infusion of green tea	ʒ 32½.
Syrup aurant. cortic.	ʒ 7½.
Acid oxalic	gr. 23.

Dose, a teaspoonful to a desertspoonful every three hours. With this treatment is generally combined the use of a tea made by infusing laurel leaves. The local use of oxalic acid is best in solution, 1 to 20, or in glycerine, 1 to 100.

The writer personally prefers the following treatment:

Three or four times daily touching the diseased surfaces with corrosive sublimate, 1 to 100 in alcohol; he dips a small sponge or pledget of cotton in this, carefully presses out superabundant fluid, and touches the false membrane. Every four hours he orders thorough spraying or douching of the nares and fauces with *warm* boric acid solution, 4 to 100. Internally, benzoate of sodium, gr. 45 to ʒiii per diem, in a mixture given in teaspoonful doses hourly. Bordeaux, Spanish, and Champagne wines and coffee are to be freely used. In a succeeding number of the MEDICAL NEWS will be given additional formulæ for the treatment of diphtheria, as collected by Le Gendre.

ANTIASTHMATIC.—Dujardin-Beaumetz recommends the following:

Iodide of potassium,	
Tincture of lobelia	āā grs. 15.
Distilled water	ʒiv.

Dissolve, and give a teaspoonful in a glass of beer before each meal. A dessert or tablespoonful may be given if necessary.—*Fr. Med.*, September 28, 1887.

PAINLESS CATHARTIC.—L. L. Gray, M.D., Central City, Mo., says: As a cathartic, I find Acid Mannate especially adapted to the treatment of children, being, in the first place, pleasant to the taste. It is well borne by the stomach, and its action is as certain as it is painless. In short, it is as indispensable as a cathartic as quinine is for malaria.

RECKLESS PRESCRIBING OF ANTIPYRIN.—We are now about to witness the same absurd course gone through in respect to the new and fashionable drug, antipyrin, as was the case with cocaine. A substance is discovered possessing certain well-marked, useful properties; after a period of probation it emerges from obscurity, and forthwith the profession, in their infatuation, not satisfied with using the drug on the lines laid down by careful observation and experiment, proceed to laud it in the treatment of the most varied, incongruous affections. The result is an inevitable reaction, for practitioners, disgusted by the non-success of the drug in the treatment of diseases for which it was never intended, abandon it without any further ado. Antipyrin is undoubtedly a useful drug, but it remains to be seen whether it really possesses properties peculiar to itself.—*Hospital Gazette*, February 11, 1888.

BUSH'S BOVININE is a dark-colored fluid containing little sediment, the amount of coloring matter estimated by the globimeter being 20 per cent. Its spectrum gives a well-marked band at C, with a fainter band at D, resembling that given by an alkaline solution of hæmatin. The fluid is neutral in reaction, and contains 18.2 per cent. of coagulable albumen. The nitrogenous extractives insoluble in alcohol, and including the inorganic salts (phosphates, sulphates, and chlorides of potassium, sodium and calcium) amount to 6 per cent. The nitrogenous extractives soluble in excess of alcohol amount to 45 per cent.

Its analysis shows it to have a high potential value as a nutriment for the sick. A fluid containing one-fifth of the coloring matter of blood with 18 per cent. of extractives and salines, ought to be excellent material from which to manufacture new blood. We are inclined to think that this fluid is likely to become better known and more extensively employed than at present. Its dietetic value is undoubtedly great.—*British Medico-Chir. Journal.*

DIARRHŒA IN CHILDHOOD.—Dr. D. P. McLachlan, of York, Mich., observed in the *American Lancet*, February, 1888: "A favorite prescription with me for a child one year old is:

℞

Tincturae opii	gtt. x.
Acid. nit. mur.	gtt. v.
Syr. aurant. cortic.	q. s. ad ℥ij.

M.

Sig. Teaspoonful every two or three hours.

"I have given this prescription a great many times in the last seven years, and it has never disappointed me."

PRESCRIPTION FOR CHRONIC CYSTITIS.—Prof. Brinton recommends (*College and Clinical Record*, January, 1888,) for chronic cystitis:

℞

Uvæursæ	ʒij
Lupulini	gr. xv.
Aquæ bullient	f℥vj

Misce. Ft. infus. et adde.

Sodii bicarb	ʒss
Tinct. opii camph.	f℥j
Aquæ	f℥viij.

M.

Sig.—Tablespoonful four times a day.

OINTMENT IN SMALLPOX.—The following ointment is said to act as an anæsthetic and antiseptic, and to prevent pitting:

℞

Pulv. iodoformi	ʒss
Pulv. camphoræ	ʒi
Vaselini puri	℥j

Misce. Ft. ung. Sig.—Apply by gentle inunction to the affected parts of the skin.

FOR CHRONIC GOUT.—Vigier has used to advantage

℞

Lithii carbon	ʒ 2½.
Potass. iodid.	ʒ 2½.
Pulv. gummi arab.	gr. 23.
Ext. gentian	gr. 70.

M.

Ft. pil. 100 in num.

Sig.—One with each meal.—*Revue de Thérapeutique*, November 1, 1887.

A DANGEROUS MIXTURE.—Several prescriptions have lately come under my notice in which occurs a mixture of chlorate of potash and syrup of iodide of iron. This seems a not unreasonable combination, and its incompatibility does not suggest itself, nor will it be found on reference to ordinary text-books. As, however, a case has recently been reported from Australia in which death resulted from the administration of such a mixture, I think it desirable that the attention of prescribers and dispensers should be drawn to the fact that chlorate of potash liberates the whole of the iodine from iodide of iron, and, if at all concentrated, the solution soon becomes saturated, and crystals of iodine are deposited after a few hours. The products of the decomposition are shown in the following equation:

$$2Fe\,I_2+KCIO_3+H_2O=Fe_2O_3,H_2O+2I_2+KCI.$$

Heat favors the reaction; and the process, which may be slow in the medicine bottle, would be much more rapid in the stomach, where the development of nascent iodine might produce symptoms of gastric irritation which were neither expected nor desirable.—R. H. Parker, in letter to *Brit. Med. Jour.*, Jan. 21, 1888.

A FEW FORMULÆ FOR IODOFORM.—Dr. Howard, in *Journal de Médecine de Paris*, gives a list of useful formulæ for iodoform, from which we quote the following:

For syphilitic sores:

℞.	Iodoform,	100 grm.
	Thymol,	200 grm.
	Sacch. lact.,	1 grm.

This powder should be well mixed and ground up. At first it should be dusted over the sore two or three times daily. Later (in four or five days) one application will be sufficient.

For herpes, a mixture of

Iodoform,	4 grm.
Ol. eucalypt.,	15 grm.

should be applied two or three times daily.

In granulated inflammation of the eyes the author has used the following formula with great success. The powder should be dusted into the eye by means of a camel's-hair brush:

℞.	Iodoform,	1 grm.
	Sacch. lact.,	5 grm.

Chancres, orchitis, etc., may be dressed with the following salve:

℞.	Iodoform,	4 grm.
	Balsam. peruv.,	8 grm.
	Vaselin. flav.,	40 grm.
	Ol. menth. pip.,	gtt. viii.

The following salve will be found of great value in burns:

℞.	Iodoform,	4 grm.
	Extr. conii,	2 grm.
	Acid. carbol.,	.5 grm.
	Unguent. rosat.,	30 grm.

HIPPURATE OF LIME.—This remedy is recommended by Poulet in catarrhal affections of the mucous membranes, particularly of the genito-urinary tract. In cystitis, regardless of its cause or nature, the remedy is said to be very beneficial. Chronic hepatitis, congestion of the liver, catarrhal jaundice, and the long list of gouty and rheumatic affections and dyspepsias of inflammatory origin, also furnish indications for its use, and in some of these it is singularly useful. The following is a convenient formula for its exhibition:

Pure hippuric acid,	100 grammes.
Lime water,	q. s.
Warm water,	2 litres.
Sugar,	5 pounds.
Essence of lemon,	15 grammes.

Add the lime water and acid to the water heated to 80°, trying from time to time until complete alkaline reaction is obtained; then add sugar and the flavor, and melt on a slow fire. Two tablespoonfuls of this may be given in water half an hour before each meal.—*Medical Age*, February 15th.

THE NEW REMEDIES which Messrs. Jno. Wyeth & Bro. are now introducing to the profession in tablet form, will no doubt prove very convenient and valuable. The reading matter upon the subject of Antipyretics and Antiseptics, which they offer to supply to physicians is interesting, and based upon a thorough knowledge of their subject.

MISCELLANEOUS.

LORETTA'S OPERATION ON THE STOMACH.—Some two months ago Mr. Treves performed this operation at the London Hospital upon a man suffering from fibrous stricture of the pylorus. At the time of the operation the man was very much reduced by pain and constant vomiting, and had been for some time unable to take food by the mouth. The abdomen and stomach were opened, and through the incision made in the viscus the pylorus was dilated by the fingers. The man made a rapid recovery, and has not vomited since the operation. He can now take any food well.

DISEASES OF WOMEN.—UTERINE HÆMORRHAGE: A CONSIDERATION OF SOME OF THE LESS COMMON CAUSES AND THEIR TREATMENT (by F. H. Davenport, M.D., Assistant in Gynæcology, Harvard University).—*Boston Med. and Surg. Journal*, August 11, 1887.—Most uterine hæmorrhages are intermittent, the periods of severe, and possibly alarming flowing, being followed by intervals of either complete cessation, or very nearly so. When the flow is at its maximum, little more can usually be done than to check it, reserving a more thorough examination to determine its cause for the interval of comparative quiescence.

It is certainly a mistake to neglect such an examination. If the hæmorrhage occurs only at the time of the menstrual period in a young girl, general hygienic and tonic treatment should be tried before resorting to a vaginal examination; but if it occurs in the intermenstrual period, whether the woman be married or single, and in any case in a married woman, its cause should be sought for by every means in our power. Too often the failure to do this, in a case of beginning epithelioma for instance, allows the favorable moment for the performance of a radical operation to slip by, and when the delayed examination is made, the disease is found to be so far advanced as to admit of only palliative treatment.

This caution applies particularly to hæmorrhages occurring between forty and fifty, or at the time the menopause is expected. Irregularities in the amount of the menstrual flow in women of that age excite little alarm, for they are considered by the women themselves, and too often by the physician, as the natural accompaniment of the "change of life."

Certain statistics with regard to the comparative frequency of the various causes of uterine hæmorrhage, and the age at which they most frequently occur, will illustrate the importance of this warning. Dr. Sneguireff, of Moscow, has written a monograph on uterine hæmorrhage, in which he gives a table prepared from all the data which he could collect, which shows the following facts: By far the most frequent cause of hæmorrhage from the uterus is cancer, constituting twenty-five per cent., or a quarter of all the cases we meet with. The next most common cause is fibroid, nineteen per cent.; then metritis, ten per cent.; endometritis, eight per cent.; abortions and subinvolution, five per cent.; and twenty-two other less frequent causes, ranging from three per cent. to one per cent. each.

A second table gives the relative frequency of the different causes of uterine hæmorrhage at the different ages. From this we see that nearly ninety per cent. of cases of hæmorrhage from cancer occur in women over thirty-five, and fifty-eight per cent. in those over forty-five; that nearly fifty per cent. of hæmorrhages from fibroids are in women over thirty-five, and twenty-five per cent. in those over forty-five, showing that nearly half of all cases of metrorrhagia that we meet, occur in the years about the menopause, and are due to the two grave affections, cancer and fibroid. In striking contrast to these statistics is the fact that less than one per cent. of such cases can be referred to the menopause as the sole cause—that is, where nothing else to account for it can be found.

Of especially grave import are irregular "flowing spells" occurring after the menopause is once established. No reluctance on the part of the patient to submitting to an examination should induce the attending physician to fail to insist upon its importance.

Another class of cases which is too often neglected is that where the menstrual flow is excessive. Many a woman is kept in a condition of enfeebled health from the monthly drain upon her system, in whose case a little care would so moderate the flow as to enable her to thoroughly recuperate in the intermenstrual period. I am convinced that there are cases, not a few, where the women are better off for not menstruating at all. They can ill afford to lose any blood, and if nature has not pointed out the true remedy by a state of amenorrhœa, any flow of blood should be looked upon as a hæmorrhage, and be treated as such. In such cases, rest in bed and frequent hot-water douches will often reduce the flow to a minimum, or stop it altogether.

A NEW OPERATION FOR ENTROPIUM.—In the very interesting discussion that followed the operation for trichiasis reported by Dr. Vossius, and given elsewhere, Dr. Schmidt-Rimpler stated in substance that he has been in the habit of using, in cases of entropium, a method of operating which he designates "Linear Cauterization." With a galvano-cautery he burns through the skin, muscle, and cartilage of the lid in a line 4 mm. from the edge of the lid, clear across it horizontally. This linear burn he allows to heal of itself. The resulting contraction from cicatrization everts or pulls the edge of the lid outwards. Care must be taken not to allow the cautery to approach too closely to the margin of the lid for fear the radiating heat might cause the partly detached margin to slough. The resulting cicatrix is scarcely visible. The author warmly recommends this operation.—*St. Louis Med. Journal.*

HIP DISEASE IN CHILDHOOD—ITS TREATMENT BY EXCISION.—Dr. G. A. Wright arrives at the following conclusions: That any injury, slight or severe, over-use, or the onset of a specific fever, may, in a scrofulous constitution, prove an exciting cause. That injury in a healthy child may produce synovitis, or even acute inflammation of bone about the hip or elsewhere, but that this does not, except very rarely, lead to chronic hip disease. He considers that treatment short of excision, when once suppuration occurs, is useful only as a palliative or a means of temporizing. To show the ultimate result obtained, he would expect, among one hundred cases excised at the time he recommends, to lose or to have to amputate about fifteen, to have about ten unsatisfactory or useless limbs, and about seventy-five useful limbs, with or without sinuses, and with shortening varying from one to three inches. In fifteen cases treated without excision, eight died, two were unrelieved, one relieved, one ankylosis, one well after one month's rest, two cured. This shows very unfavorably against the results of fifteen cases treated by excision by the same surgeon, which more nearly accord with the results expected by Dr. Wright; but in the former series the majority were treated by what is called "rest," which, we believe, means recumbency in bed only, and with no special fixing apparatus. The two which were cured were treated with Thomas's splint; another, which was relieved, also had this splint. The ankylosis was thus attained, and only one so treated died.

WHAT CAUSES ARCUS SENILIS?—Everybody knows that arcus senilis is a white line or ring in the extreme margin of the cornea of old people, but everybody does not know what the pathological condition is. From some unknown cause, the margin of the cornea in old people often undergoes "fatty degeneration," and becomes opaque. This is arcus senilis. Such a change in the cornea does not seem to interfere with its vitality. In making cataract operations we often have to make long cuts through the opaque part. These apparently heal about as certainly as cuts through the clear cornea. I have seen cases where the arcus covered more than half of the cornea. I have never known the very centre of the cornea to become opaque from such changes.—*St. Louis Med. Journal.*

ARTIFICIAL RIPENING OF CATARACTS.—Dr. Boerne Bettman, of Chicago, in the *Journal of the American Medical Association* (December 3), says that instead of merely rubbing the lens through the cornea, after iridectomy has been performed, as recommended by Föster for the ripening of immature cataract, that he introduces a spatula through the corneal incision, if necessary, behind the iris, and triturates the lens by gentle stroking and pressure in any direction. Of course this proceeding requires great caution. We must not, by the exertion of excessive force, dislocate the lens, nor by turning upon it the sharp edge of the spatula lacerate the anterior capsule. Dr. B. asserts that the distribution of opaque lens fibres and breaking up of the cortex can be seen with the naked eye during the operation, and that the lens becomes totally opaque within a few days. He gives the history of three cases in which slowly ripening cataracts were thus matured, one in forty days and the other two in three weeks.

HÆMORRHAGE FROM HANDS AND FEET IN AN INFANT; PELVIC CELLULITIS IN THE MOTHER (By E. C. Helm, M.D., Chicago, Ill.)—Early in November, 1887, Mrs. K. was confined, being attended by a midwife. On December 4, I was called to see the child, being told that it was "bleeding from the hands and feet." The mother was sitting up in bed, sweating profusely, and the midwife informed me that she was "convalescing from blood poisoning." Her previous history, I learned, had been that of fever on the third day, with scanty lochia and a small flow of milk, with some abdominal pain and uneasiness. She had been better the last few days; in fact was under charge of another physician when I was called in to see her child.

The child was very pale and bloodless. On removing the blood-stained bandages from its hands and feet, I observed that the blood transuded through the skin of the palms of the hands and the soles of the feet. The blood did not readily coagulate, and was very thin, resembling bright red serum. I ordered frequent astringent washes and powders, and nourishment to be given.

In a few hours I was summoned again, and found the palmar and plantar hæmorrhage had ceased, but an abundant hæmatemesis taking place. The blood vomited was dark and thick. A few hours after this was checked, the palmar and plantar surfaces began to bleed again. I was unable to control the hæmorrhage from the stomach, and hands and feet, at the same time, for longer than a few hours, as checking it at one place invariably caused a hæmorrhage at the other.

The child died in forty-eight hours. The remedies used were ergot, aromatic sulphuric acid, internal and external astringents and plenty of food, but all were of no avail. The child either bled internally or externally the greater part of the time, but never both at once. When the hæmorrhage was external, it was always from all four of the surfaces mentioned, never from one or two of them.

The mother's condition had improved and the other physician was dismissed. About the middle of December, and six weeks after delivery, I was again called, and found the patient in bed, with high fever and great pain in the region of the uterus, especially on the left side. The uterus was immovable, the *cul-de-sac* of Douglas was full and tense, but showed no signs of fluctuation. The entire pelvis, especially to the left of the uterus, was filled with the exudate. Under treatment the woman rapidly improved for three weeks, when suddenly, two hours after I had seen her, she was taken with severe pain in the region of the left ovary, and it was several days before this pain was under control. The temperature, which for the last week had been nearly normal, jumped to 104°. There never was much tympanites. A hard, sensitive mass could be felt externally, and bimanual examinations showed it to be as large as a goose's egg. It appeared to be in the folds of, or just back of, the left broad ligament, probably the latter. This grew larger for two weeks, and then the patient informed me one day "that the lump was gone." Learning that there been no discharge of pus, I was considerably puzzled. She said the urine had been rather thick, but she had thrown it away.

Securing a sample as soon as possible, I found, under the microscope, a few pus cells. The diagnosis of rupture into the bladder was now clear. In a few days the fullness and pain returned, but they soon subsided. This process was repeated ten or a dozen times, as the opening into the bladder was doubtless small, leading to frequent refillings and evacuations of the pus cavity. From this time the pus cavity became smaller and smaller, until, three months after pus was first discovered in the urine, the microscope occasionally failed to show pus; and in another month none whatever could be found. The tumor had disappeared, the uterus regained much of its mobility, and the patient was convalescent.

This case was very interesting to me, and so I send it to you. As the child nursed the mother, while she was suffering from blood poisoning, it has been my opinion that its sickness and death were due to the poisoned milk; although I have never heard of a case having this peculiar variety of hæmorrhage.

An English View of Homœopathy.—*The Lancet* of January 21, 1888 says: Now that the particular legal point raised by the case of Millican *v.* Sulivan and others has been decided, it will be well to recall attention to the general question involved in the discussion which has been evoked by that case, and in connection with which an influential daily contemporary has thought it wise to admit into its columns a correspondence almost unprecedentedly voluminous. One party in this controversy has sought to make it appear that the profession has lately changed its ground of objection to meeting homœopaths. But this is not so. Such meetings have always been held to be unseemly and unreal, neither creditable to the consultants nor profitable to the patient. It is twenty-seven years since Sir Benjamin Brodie, in one of the wisest and most dignified papers which have appeared on this subject—to be found in the first volume of his published works—advised the profession "to continue in all ways to act honorably by the public, at the same time never being induced, either by good nature or by any motives of self-interest, to appear to give sanction to a system which they know to *have no foundation in reality.* To join with homœopathists in attendance on cases of either medical or surgical disease would be neither wise nor honest. The object of a medical consultation is the good of the patient, and we cannot suppose that any such result can arise from the interchange of opinions where the views entertained or professed to be entertained, by one of the parties as to the nature and treatment of disease are wholly unintelligible to the other." The judgment of the Court of Appeal shows that the judges realize the "irksomeness" of a co-operation of persons holding such different views, and the absurdity of expecting a court of law to enforce such co-operation or anything savoring of it.

The scientific and moral aspects of homœopathy remain very much where they were *ante bellum.* Lord Grimthorpe has met with his match in satire, and in the power of casting ridicule on views which he wishes to disparage. He has had the satisfaction of provoking a controversy of extraordinary length in the leading journal in the dullest season of the year, and of securing for the advocates of homœopathy a very much needed chance of airing their so-called principles and the wonder-working power of *apis* and others of their favorite remedies. But it is not by such advocacy that the public is influenced in its selection of medical advisers. Lord Grimthorpe himself is indeed almost converted—almost pursuaded—to be a homœopath, and seems equally committed, or, as we might say, condemned, in the matter of his bones, to the care of "bone-setters." But this will not hinder him, in the event—which heaven forbid—of real danger to life or limb, of seeking the aid of the regular Faculty. At any rate, it will not hinder the public, who will be more impressed with the common-sense facts of the case and with the urgency of suffering and disease than with half a hundred smart letters made up of miserable bits of idle gossip telling a wretched story against any respectable member of the medical profession.

Even taking the more serious letters on the homœopathic side, was there ever such a feeble structure built on such a flimsy basis? Were such meagre and doubtful arguments ever so greedily seized by hardly pressed combatants? Take the too much vaunted minim dose of vin. ipecac. as a remedy for vomiting, which Mr. Millican thinks gives at least a quality of reasonableness to the homœopathic contention of *similia similibus curantur*, though he is careful to disclaim any belief in the doctrine. As if so coarse a quantity as one minim of such a preparation, according to the philosophy of Hahnemann, could give the "spiritual and dynamic" virtue which was of the very essence of his doses and his drugs! Dr. Dyce Brown suggests a numerical argument for his school. He contends that if 300 men out of 27,000 members of the profession think homœopathy within the bounds of reason, it is therefore to be recognized and treated respectfully. But what about the judgment of the 26,700? We do not remember the exact proportion of color-blind men, but it would be as reasonable to claim that they shall determine questions of color, as that the great majority of the profession shall be required to recognize that which they can neither see nor respect.

Lord Grimthorpe has mistaken his calling. He has no mission to settle a question of this kind. It is too nice and altogether too grave. After making all allowances as to the imperfections of medicine, and especially of therapeutics, there occur almost daily to men in practice cases where the prompt use of apt measures is a life and death concern, or, at least, one of relief to urgent pain and agony. The medical profession declines to be bound in its selection of remedies by an absurd theory of last century, to which the experience of this century gives no sanction. It claims to be free. Lord Grimthorpe will not succeed in binding it. His deportment in this matter is in a way amusing, but in another sense it is rude. He knows as much of disease as a physician may be supposed to know of law. Yet he ventures to lecture the medical profession as if they were insensible to everything but truth and courtesy. Men who have to deal with human beings in the grave affairs of health, of life and death, cannot accept Lord Grimthorpe as a censor; and his noisy, gossippy attacks on them will not do much either to hurt them or to advance his clients—homœopaths and bone-setters.

SIR MORELL MACKENZIE.—Three generations ago a Ross-shire Highlander put a shilling about some part of his person and set his face across the Scottish border. His name was Mackenzie; he amassed a good fortune, and his grandson grew into a mad doctor of much ability but of retiring habits. To this physician, then living at Leytonstone, England, there was born fifty years ago a son who was named Morell, after an uncle who perished very creditably in the loss of the Pegasus. Young Morell was left to run wild in Epping Forest to an advanced boyhood, but he progressed well later; took a high degree at the University of London; abjured the retiring habits of his father;

screwed a brass plate on his door; and took to looking down people's throats for guineas. His success in private was great and immediate, and in a few years after setting up he could give to physicians who had been established a lifetime a score of patients and a beating. He became a specialist. He wrote books on "Diseases of the Throat and Nose," and on the "Hygiene of the Vocal Organs." He founded the Hospital for Diseases of the Throat, in Golden Square, obtained all the professional honors in general which throat and nose can give, and became the special champion of specialism in medicine as opposed to general routine; in which capacity he largely developed and amply displayed the bellicose and controversial predisposition he had inherited from the original Highlander. A few months ago he was called upon to deal with the throat of the Crown Prince of Germany, which had baffled all the German doctors; and this he has treated with such success that it has been made the occasion for conferring upon him the distinction of a knighthood. Sir Morell is a man of wealth, of capacity and of strong individuality. He has long been the physician and friend of all singers and actors, and he has a son who is already making a name as a comedian. He can often see a joke, which is unusual for a Scotchman.—*Vanity Fair.*

TONSILLITIS AND ITS RELATIONS TO SCARLATINA AND DIPHTHERIA.—Dr. Hingston Fox sums up his conclusions on this subject as follows: 1. There is a commonly occurring form of tonsillitis, symmetrical, varying much in severity, distinct from suppurative quinsy, due to septic causes, often attacking several members of one household, and frequently prevalent at the same time as scarlatina and diphtheria. 2. Short-lived outbreaks of so-called infectious sore throat occur, associated with unsanitary conditions, the cases often varying much from one another, but intermediate in their general characters between tonsillitis and the two specific fevers. 3. The throat lesion is the symptom most constantly present in both scarlatina and diphtheria, but its degree and character very greatly vary; it is in some cases apparently identical in nature in the two fevers; and it may be absolutely indistinguishable from the common form of tonsillitis first alluded to. 4. There is some reason for regarding scarlatina and diphtheria as essentially forms of tonsillitis which have acquired the power of infecting the system generally. 5. The virus of these two fevers may probably enter the lymphatic system through the tonsil, producing tonsillitis as a primary effect. 6. The specific character of these diseases is connected with the power of the poison-germ to overcome the resistance of the tissues so far as to reproduce itself in the human body without deterioration; a certain series of lesions is thus set up before the poison is destroyed, and in the meantime its multiplication affords a supply of *contagia* for the communication of the disease. 7. This power of withstanding the resistance of the tissues and reproducing itself within the human body has probably been acquired under a process of evolution. 8. There is nothing in the occurrence of scarlatina and diphtheria of wounds, and of other mucous surfaces than the fauces, to contravene the hypothesis that the poisons of these diseases in ordinary cases enter at the tonsils. 9. The tonsils are absorbent glands, and their function may not improbably be connected with the absorption of certain elements from the saliva.

CARCINOMA OF CERVIX UTERI, DIAGNOSIS OF BEGINNING. (Dr. Stratz in the *Brit. Med. and Surg. Jour.*)—The perfected technique of the operative treatment of cancer of the uterus has rendered its cure possible, providing it is seen at a sufficiently early stage. Even if certain symptoms, as profuse menstruation, leucorrhœa, pain, hæmorrhage following coition, with the exclusion of other causes point to carcinoma, still the difficulty of distinguishing beginning cancer from erosions will always exist. Ruge and Veit recommend the excision of a piece of the erosion for microscopical examination, and by this means making a diagnosis. But even microscopically, it is possible to recognize certain characteristic appearances which are peculiar to carcinomatous erosions. He gives four particularly important signs:

1. The diseased surface is everywhere sharply separated from the sound tissues; it nowhere gradually changes from one to the other.
2. A difference in level between the diseased part and the healthy can always be recognized.
3. The cancerous portions have always a yellowish tint.
4. The malignant spots show small, yellowish-white, glistening raised points, at least in certain places.

THE SECRETS OF PROFESSIONAL SUCCESS.—The "Life of Darwin" apart from its biographical interest and great scientific value, is important as containing the opinions on many questions of a great thinker and unrivalled observer. The first volume contains the admirable autobiographical chapter originally written for the benefit of the naturalist's children, but now fortunately given to the world. It abounds in references to Darwin's father—for many years one of the leading medical practitioners of Shrewsbury—whom his son frequently recalled as "the wisest man he had ever known," and the secrets of whose great professional success are indicated by one well qualified to speak. Dr. Darwin was the son of the celebrated Erasmus Darwin, of whom it may be said that he would have been a great naturalist if he had been less of a poet, or a great poet if he had been less of a naturalist. The father of the future author of the "Origin of Species" was apparently an example of a phenomenon perhaps less rare than the commonplaces of philosophy would lead us to expect—viz., of a man achieving great distinction in a department of effort for which he has no natural bent, and to which he may even have a distinct antipathy. No doubt it is a safe rule for average minds to encourage them to follow their taste, since by so doing they are certainly most likely to do the best work of which they are capable. But such a principle has a much less direct application to men of distinguished talent, who are tolerably certain to achieve distinction in any work into which they can be induced to throw their energies. In their case taste and inclination are mainly important as affording the necessary stimulus to sustained labor. Although Dr. Darwin became one of the most successful practitioners of his time, his son records that he actually "hated his profession." Perhaps the true reading of his mental habit would be to say that he hated certain departments of professional labor, especially anything that involved operating. We are told that to the end of his life he could not endure the sight of blood, and it is a significant instance of the transmission of a mental proclivity that in later years Charles Darwin resigned his own medical career at Edinburgh because he could not accustom himself to attendance on operations.

The two characteristics which, we are told, contributed most to Dr. Darwin's success in life were his capacity of inspiring confidence, and his patience and fertility of resource in devising schemes for promoting the comfort of sufferers. We are not told the special means by which he gained the confidence of his patients, but it is not difficult to divine why this faculty should lie at the root of professional success. It is a sort of outward sign and visible index of other qualities of great value to the practitioner. The medical man cannot hope to inspire in others a confidence which he does not feel himself, and, if thoroughly sincere and self-respecting, he cannot possess such self-confidence unless he knows that his diagnosis and treatment are founded, not only upon adequate previous knowledge but also upon a conscientious study of the special case before him. In other words, in order to feel and inspire confidence of the right sort, the practitioner must be thoroughly grounded in his profession, and must throw his best energies into every case of which he takes charge. It is not difficult to foresee that a man who practices in this spirit is practically assured of success.

The second characteristic of Dr. Darwin's professional methods was never more worthy of imitation than at the present day. We are nothing now if not scientific; we aim at an exact diagnosis, and, as far as the materials at our disposal permit, at a rational and consistent treatment. We are too apt to forget that the patient thinks almost exclusively of his symptoms, and seeks their relief without that clear apprehension which we cultivate regarding the frequent worthlessness of symptomatic treatment toward promoting recovery. Again, in all chronic cases symptoms arise not directly associated with the special disease in hand, and the practitioner cannot afford to ignore the patient's natural desire for their investigation. Thus, the subject of valvular disease of the heart may be troubled with neuralgia, and he will not be consoled by being told that his pains have no connection with his real malady, and that his most philosophic course will be to continue his mixture of iron and digitalis. Parallel instances might be multiplied without end. While we are far from asserting that the great body of practitioners ignore *relief* as compared with *cure*, we are certain that there is not unfrequently a tendency in this direction, and that this tendency is most apparent in hospital practice.

One curious and instructive story of Dr. Darwin is worthy of reproduction. He was once called in consultation to see a serious case, which the regular attendant had pronounced hopeless; Dr. Darwin saw the case, gave some hope of recovery, and went his way. The patient died, and Dr. Darwin felt sure his reputation in that household was gone forever. Not long afterward, to his great surprise, he was again summoned to the same family, and found that gratitude and not resentment had been felt toward him for encouraging a hope which had nevertheless proved without solid foundation. He was accustomed thereafter to say that practitioners should be very slow to stifle hope, as such a course both paralyses effort and brings before its time the bitterness of death.—*Lancet.*

SUCCESSFUL EXCISION OF A TUMOR OF THE SPINAL CORD.—Surgery is a science, or perhaps we should say a fine art, which will tolerate no limits to its domain. It has of late taken up the invasion of the brain in earnest; it has just made its first successful dash at a tumor in the spinal cord. Last Tuesday evening, before the meeting of the Medical and Chirurgical Society, a private patient of Dr. Gowers and Mr. Victor Horsley very generously allowed the Fellows and visitors of that Society the opportunity of seeing all that had been done for the improvement of his condition. He had spent about three years in severe pain, which was most intense just below and inside the angle of the left scapula, and was accompanied by absolute loss of motion and sensation of the body and limbs below that level. The upper border of the anæsthesia was distinctly in the region of the fifth intercostal nerve on the left side, on the right it was less accurately defined, but did not extend higher. All the symptoms agreed with those of tumors of the spinal cord, and the intense pain afforded ample justification for making an attempt to excise the tumor. Mr. Victor Horsley accordingly removed the spines and parts of the laminæ of the fifth and fourth dorsal vertebræ; but not until the third vertebra had been similarly treated did the tumor come into sight. It was a small oval myxoma compressing and making a deep impression on the left side of the spinal cord below the third vertebra. It was easily shelled out, and under careful antiseptic treatment the temperature did not rise more than 1° F. The wound healed rapidly, except at the uppermost point, where a drain had been left in by which a little cerebro-spinal fluid flowed away very slowly. For three or four weeks the former acute pain did not lessen, and even at times seemed more agonizing; but after that it gradually and intermittently decreased, and now, after seven months, is entirely gone; the sensation and motion of the body and legs are almost completely restored. This is, we believe, the first time that such an operation has been attempted, and we must most heartily congratulate both the patient and his advisers on the triumphant character of its success. However far, and however quickly surgery may advance, it will long be a memorable day when it gained its first victory on so new a field and over so formidable an enemy.—*British Med. Journal.*

Sentence of Banishment on a Doctor.—A St. Petersburg Court of Justice has just passed a sentence on a medical man which is sufficient to strike terror into the heart of every hospital medical officer in Russia. The circumstances, according to the *St. Petersburger Medicinische Wochenschrift*, are as follows:—In consequence of the insufficiency of room in the St. Petersburg hospitals for all the sick persons who apply, especially in winter, for admission, there is frequently great difficulty in obtaining a bed, even for an urgent case. In order in some measure to remedy this state of things, an "Information Office" was established some time ago for the benefit of patients. A medical man is on duty there all day, and he receives reports from all the hospitals regarding the number of vacant beds for each sex, and can thus send an applicant to a hospital where he has some chance of being admitted. No beds, washing accommodation, or clothes are provided at the office, but an applicant is allowed to remain there till nightfall, waiting for news of a vacant bed. After that time he must leave. In the case above alluded to, the accused, Dr. Dreipelkher, who held the rank of "Court Councillor," was convicted of having sent a patient away from the Information Office, insufficiently clad and in very cold weather, without giving her any assistance, and so accelerating her death. The patient was an old woman in the last stage of phthisis, who was sent, as indeed she had been sent on previous occasions, to the Information Office by her employers in order that she might be admitted into a hospital. There was, however, not a single bed for a female in any of the hospitals. Dr. Dreipelkher sent an attendant with her to a police-station distant only a few hundred yards, with a request that she might be taken into a kind of small casual ward attached to the station for the night. The police, however, would not take her in because she "did not belong there." In like manner she was turned away from the other police stations, no clothing being provided for her, although the orders are that the feldsher (dresser) attached to each of the police casual wards shall in very severe weather see that no person is sent away without a warm wrap, a supply of which articles is kept for the purpose. After 6 o'clock the poor old woman became almost comatose, and was admitted to a temporary hospital, where she died about an hour afterwards. In what way Dr. Dreipelkher was to blame it would be hard to say. He was entirely without any accomodation for patients himself, and he seems to have done his best to provide for the poor creature until the next day, when he hoped he would be in a position to find her a bed in some hospital. He was, however, found guilty by the jury, and was sentenced to the deprivation of personal rights and to banishment for three years to the province of Archangel! This sentence appears to have been pronounced in obedience to some statute and against the judge's inclination, for he seems to have furthered a petition to the Czar through the Minister of Justice, praying for a commutation of the sentence to one month's imprisonment.

DECEITS TO DEAL WITH.—The recent notable case of a man named Logan, arrested in Sedalia, Mo., who feigned successfully some startling symptoms, and managed completely to deceive several physicians, is but one in many surprising instances. Logan was anxious to escape the penitentiary, and began a series of wonderful manœuvres, by which he contrived to convince his medical advisers that he had a tumor on the brain, the tumor being actually located and an operation arranged for its removal. The sharp would-be patient first made a feint of deafness, which grew upon him; attended by dilation of the pupils, palpitation of the heart, epileptic fits, and dyspepsia, accompanied by vomiting. These symptoms, seriously accepted by his physicians, continued up to the very point where, after lying apparently unconscious for some time, he was about to be subjected to an operation for the removal of the supposed tumor. The surgeons had actually gathered around the man's bed, when his courage failed him and he jumped up, confessing that the whole thing was a sham from beginning to end, planned in the hope of facilitating his escape. His wife had been an accomplice to the affair, and the fellow had put belladonna between his toes to dilate his pupils, swallowed tobacco-juice to induce vomiting, held his breath and contracted his chest to increase the action of his heart, and had accelerated his pulse by hitting his elbow against the wall.

A successful ruse of this sort shows how easy it is for a designing or hysterical patient to deceive even a number of physicians. Many alleged phenomena are traceable to such practices inspired by mental disease or a hidden purpose. We recall two cases in our own experience and knowledge which may be mentioned here. One man was ambitious to become a curiosity in a museum, and asked us to certify to the insensibility of the skin. We produced him at a clinic, where he was subjected to a large amount of pinching, pin-pricking, tickling, etc., without giving any visible sign of sensation. It was not until we applied a heavy galvanic current that we succeeded in exciting the contortions of pain, but even then, though tears rolled down the man's face and he was in manifest agony, he contended that he felt nothing. It was simply a case of unusual endurance coupled with special control over the muscles. A similar case has been reported in France in the course of the experiments with hypnotism.

Another case of deceit within our knowledge was that of a woman in one of our hospitals—an hysterical patient, who showed an inexplicable rise in temperature every evening, with an equally surprising fall every morning. The thermometer, placed in the axilla, registered as high as 112°, while there was no apparent fever or any local inflammation. The physicians could not understand this, until one night she was caught taking out the thermometer from under her arm, while the physician walked to attend to some one else, and holding it over the lamp which stood on a table by her bedside. It had been her custom to do this nightly, and put the thermometer back under her arm, where the physician would find it registering this naturally increased temperature.

Such tricks as these are constantly played upon us. As a shrewd physician once said, " It is quite as important to know what conditions are absent as to know those which are present."—*Med. Register.*

MEDICAL NEWS AND NOTES.

THE NEXT ANNUAL MEETING of the American Medical Association will be held in Cincinnati, May 8th to 11th. The Central Committee, Dr. W. W. Dawson. Third Street and Broadway, Cincinnati, Chairman, has been doing some good work. Music Hall, a very fine building, has been secured, and all the meetings will be held under one roof. An extensive social programme has been arranged, and the profession of Cincinnati is subscribing liberally for the entertainment of their colleagues. The Association met in Cincinnati in 1850 and 1867.

A STRANGE ANOMALY.—The physician is the only man whose life-duty calls upon him to work directly against his own interests. He must study and work to bring about a state of affairs which tends directly to relieve him of his occupation. Every year the physician realizes that it is more scientific to keep a community healthy than to cure it of such ills as it is obliged to suffer from when no regard has been paid to sanitation. As he advances in science he places himself more and more in the position of a merchant who is using every effort to make his wares useless. Fortunately, there is not much prospect of his being entirely successful in this endeavor at present, but it is easy to see that the medicine of the future will be progressively preventive.

THE TWENTIETH ANNUAL SESSION OF THE TEXAS MEDICAL ASSOCIATION will be held in the city of Galveston on the fourth Tuesday in April, 1888. This meeting will no doubt prove to be of great value to scientific medicine, and of much social enjoyment to those gentlemen who are privileged to attend it.

ANTISEPTIC CANDLES are the latest novelty. They are made by combining iodine and salicylic acid, and incorporating with fats, paraffine, or wax. Phenol is produced by the decomposition of the salicylic acid.

IT has been calculated, according to Proctor, that a man of seventy has consumed twenty wagon-loads, or eighty tons of food, solid and liquid.

THE Chief of Police, Chicago, has issued an order giving the vehicles of physicians precedence at bridges along with the mail and patrol wagons, ambulances, and fire apparatus.

THE *Scientific American* suggests as a means of relief in chilblains the following: Dissolve an ounce of ammonium chloride in half a pint of cider vinegar, and apply frequently. A half pint of alcohol may be added to this lotion with good effect.

THE *Medical World*, Philadelphia, has issued a visiting list on a new plan. It is in sections—one book for each month. A neat leather case is provided, into which the monthly parts are slipped. By this means plenty of space is provided, and at the same time a small, flat book, convenient for the pocket.

A NEW FORM OF INFECTIOUS PNEUMONIA.—At the recent Medical Congress in Italy, Dr. Cantani presented a communication on a new form of infectious pneumonia which had been observed by him. The clinical history showed broncho-pneumonia, which had been preceded by a diffuse bronchitis, with remittent and very pronounced fever, considerable emaciation, and great enlargement of the spleen. The disease was contagious, and was a primary affection of the bronchi, which extended downward through the lung, and sometimes over the pleura and upward along the trachea, and even to the larynx and pharynx. Bacteriorological examination revealed the presence of numerous diplococci, and especially streptococci, simliar to those found in erysipelas. The pure cultures did not, however, produce erysipe as when injected subcutaneously. When they were injected under the skin of a rabbit's ear, only swelling and reddening at the site of puncture were produced. All the cases ran a favorable course.

DR. H. C. COE has been appointed as one of the visiting obstetricians to the New York Maternity Hospital, in place of Dr. E. L. Partridge, resigned.

A CURE FOR LYING.—Dr. Voisin relates the case of a girl, eleven years of age, who was a most inveterate and persistent liar, and whom he cured completely of this reprehensible habit by means of hypnotism. Here is a grand field of usefulness opened before this young science.—*Medical Record.*

EPHEDRINE, A NEW MYDRIATIC.—Dr. Nagai has extracted from the *Ephedra vulgaris*, by a process whose details he promises to publish subsequently, an alkaloid to which he has given the name ephedrine. In a preliminary note on the action of the drug, M. Kinnossuke Miura ascribes to a ten per cent. solution of the chlorhydrate the following advantageous mydriatic properties: The pupils are dilated in from forty to sixty minutes after an instillation of one or two drops; the dilatation, though not complete, and though the pupil reacts slightly and temporarily, is sufficient for thorough examination; children and old people are more sensitive than adults; the accommodation is scarcely, if at all, paralyzed; the dilatation lasts from five to twenty hours from the time of instillation. No bad effects, constitutional or local, are observed after long-continued use. The mydriatic effect upon the inflamed iris is very slight.—*Thérapeutic Gazette.*

"HOW are you feeling to-day?" asked a physician of a paralytic patient. "Only a little bit on the right side, thank you," was the cheerful response.

LACERATIONS AND FIRST LABOR.—Dr. James Braithwaithe, in the *Lancet*, claims that perineal lacerations are less common after first labors than after subsequent labors. Despite the common opinion to the contrary, it is probable that the opinion is correct, for the most care is taken at the first labor.

DR. HENRY FENWICK gave a demonstration the other evening, at the Medical Society of London, on the applications of the electric light to the urethra and bladder, both on living subjects and on the dummy. It certainly justified his forecast that ere long the endoscope and the vesicoscope would be as largely employed in the diagnosis of urethral and bladder disease as the laryngoscope and ophthalmoscope in diseases of the throat and eye. It must be observed, however, that the examination of the bladder by these means requires a dexterity which practice alone can give, and presents difficulties of its own, beside which the laryngoscope and ophthalmoscope are playthings.

THE *London Medical Record* has ceased to appear under the auspices of Messrs. Elder, Smith & Co., and is to be continued as the *London Medical Recorder.* Dr. Ernest Hart has relinquished the editorship of this publication, as well as of that very useful manual, the *Sanitary Record.*

A TRAMP'S PARADISE.—Orders have been issued by the chief constable of Derbyshire, England, for the re-vaccination of the members of the police force as a precaution against the small-pox epidemic prevailing in the adjoining county. No vagrants or merely suspicious characters are to be apprehended until this order has been carried out.

DR. MANSON, an English physician, has been summoned to Hong Kong to take medical charge of the young Emperor of China. This is said to be the first occasion on which a foreign doctor has ever attended a member of the imperial family.

ROBERT A. GIVEN, M.D.—Dr. Robert A. Given, of Burn Brae, Clifton Heights, Delaware County, died Tuesday, January 10th, in the seventy-third year of his age.

DR. SCHWENINGER, of Vienna, has been called to treat the ladies of the Sultan's harem for obesity.

THE process of embalming in its best form, as practiced by the ancient Egyptians, cost more than two thousand five hundred dollars.

D. B. SACHS, editor of the *Journal of Nervous and Mental Disease*, has retired, and has been succeeded by Dr. Græme M. Hammond.

THE wife of Dr. Oliver Wendell Holmes died at her residence on Beacon Street, Boston, on February 6, 1888, in the sixty-ninth year of her age. Mrs. Holmes was a daughter of Judge Charles Jackson, one of the Justices of the Supreme Judicial Court of Massachusetts, who sat on the bench from 1813 until 1824. His daughter was married to Dr. Holmes in June, 1840.

IDIOCY is sometimes the result of difficult labor. Dr. Langdon Down states that in a very large number of cases of idiocy the subjects were born after difficult and unusually tedious labors, and he held that if a neurotic tendency was present the tedious labor and suspended animation might determine the catastrophe, where otherwise all might have gone fairly well.

GATES, of Scranton, Pa., records a case of extra-uterine pregnancy, in which after nine years he removed the fœtal bones from the rectum by the finger. Rapid recovery followed.

ACCORDING to Fournier, so frightful is the mortality among children in France from hereditary syphilis that depopulation is threatened.

A TEXT-BOOK on physiology, by Chapman, the brilliant professor at the Jefferson College, Philadelphia, is announced. It is said to be one of the most perfect text-books in the English language.

KILLING A MONSTROSITY.—An extraordinary appeal case has lately been heard in Madras which shows the character of existing superstitions. It seems that one of the accused gave birth in December last to a male child having four eyes, the face of a monkey, and crooked arms and legs, while it grunted like a pig immediately on its birth. The midwife placed the child under a trough, and sat upon it, both she and the mother raising cries of alarm. The male prisoners then came and took the child into a field, and killed it by striking it on the head with a club. Their explanation was that the child was an evil spirit, which they were justified by the custom of the country in killing, in order to prevent it from doing evil. The judge acquitted them on the ground of a mistake of fact. This decision was naturally upset on appeal. The accused believed that unless the child had been killed it would have grown to an immense size and devastated the country, and that they were therefore committing a meritorious action in obviating a grave public calamity.

WOMEN PHARMACISTS IN ITALY.—There is a dearth of pharmacists in the rural districts of Italy. The Minister of the Interior recommends that women be given opportunity to study and practice pharmacy, although he would not go so far as to allow them to receive the degree of pharmaceutical chemist. That will come, however, in due time.—*Exchange.*

A TERRIBLE SUICIDE.—The *British Medical Journal* reports that in the case of Rear-Admiral Verstrume, who died by his own hand at Falmouth, the deceased was found to have thrust a red-hot poker three or four times into his abdomen.

THE NEW YORK ACADEMY OF MEDICINE has called the attention of the Board of Health to the practice of druggists of dispensing filtered water for distilled water. An investigation was ordered, and samples of water were obtained from twenty-five prominent druggists, only one of which was distilled. The other samples were filtered croton water, containing more or less organic impurity, sufficient in many instances to impair the efficiency of the prescribed solution. This substitution of filtered for distilled water is held to be an adulteration, which is punishable by a fine of fifty dollars for the first offense. The druggists have received warning that proceedings will be taken against those who, in the future, are found guilty of this form of substitution.

TARUZZA does not believe that the presence of blood-clot in a wound prevents primary union. He relies on perfect disinfection, does not attempt to thoroughly check bleeding, and discards drainage tubes.

A GEORGIA FARMER made one hundred dollars off an acre planted in watermelons, and a neighboring doctor made two hundred dollars off the same acre.

THE replacement of the distended intestines is very often difficult after operations for obstruction of the bowels. Kümmell accomplishes this by placing a folded towel over the bowels, pushing its edges upward under the sternum, downward into the pelvis, and on the sides under the abdominal walls. When this is done, and the whole is controlled by the hands of an assistant, he places the sutures in position, and has the towel withdrawn gradually as the sutures are tightened. This procedure, he says, does away with the necessity for puncturing the bowels to empty them of gas. Rehn suggests that a tube be introduced into the stomach to relieve the distension of the bowels in these cases.

STATISTICS OF CONSUMPTION.—A very noticeable fact in the mortality statistics of consumption is the predominance of females among its victims. This is, in a measure, due to the indoor life of women, but not altogether. The many accidents and diseases incidental to the physiological life of women greatly predispose to consumption. These are, however, nearly all of an avoidable character, and have their fountain-head in carelessness during the menstrual period and during the puerperium. Women should be taught from childhood that these are sacred epochs, and that during them nature demands rest and especial care. The Semitic six weeks' rest after child-birth is true to nature, and should be observed by every woman who becomes a mother. Lactation frequently predisposes to consumption, but usually in those cases which have made bad recoveries after confinement, and are in want of the proper food and care which are necessary for a nursing woman.—Dr. Lawrence F. Flick, *Journal of the American Medical Association*, February, 1888.

MR. JONATHAN HUTCHINSON states that a peculiar form of epithelial cancer may be produced by the continued administration of arsenic in large doses.

A PATIENT says that doctors may differ, but they don't disagree half so much as their medicines do.

FOR the furtherance of female medical education in India, prize funds have been inaugurated by the Countess of Dufferin and others. The first prize of the Dufferin Fund has been claimed for a student of the Grant Medical College at Bombay. Sir Walter de Souza has given the Calcutta Medical School a trust fund of two thousand rupees, additional to former donations, to aid the female students of medicine who repair to that school of the Indian metropolis.

THE municipal authorities of Paris have for some time been operating their system of "holiday colonies" for needy children, the results of which are beginning to be studied. The boys gained on an average three and a half pounds in weight, and the girls four, and they continued to grow in weight for nearly a month after their return to the city at a still greater rate. The boys gained on an average three-quarters of an inch in chest girth.

IN the following paragraph which appeared in *The Doctor* of January 1st to 16th, the name of Dr. Quinlan should have been printed "Francis," instead of "Travis." "Dr. Travis J. Quinlan, of this city, was recently elected instructor in the Department of Diseases of the Throat and Nose at the New York Polyclinic. Dr. Quinlan has been associated with the Polyclinic about three years. He is also Assistant Surgeon at the New York Eye and Ear Infirmary, Visiting Laryngologist to the Northern Dispensary, and the Assistant to the Department of Diseases of the Throat and Nose at the College of Physicians and Surgeons of this city."

PRELIMINARY NOTICE.—The next meeting of the Fifth District Branch, New York State Medical Association, will be the fourth annual meeting, to be held in Brooklyn, on Tuesday, May 22, 1888. There will be a morning and an afternoon session. All Fellows are solicited to contribute to the meeting, either by reading papers, notes or communications, or by exhibiting specimens. All papers offered are the property of the Branch, and will be published in a current Medical journal. The secretary desires to be notified of the title of any paper to be offered as early as convenient.

EDWIN BARNES, M.D., *President.*

E. H. SQUIBB, M.D., *Secretary.*
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EDITORIALS.

BY watching the growth of language in a child, we may observe the gradual process by which it first learns to lisp the names of common objects around it, by which it adds names to names in the memory, till at length the principle of co-ordination and conjunction dawns upon it, and we find it adding word to word by conjunction. This implies the faculty of comparison, and the mind having found itself capable of this much, plumes its wings for flight into the realm of subordination and inference. In adult life this sphere should be attained; with the attainment of it the mind has grasped the principles of correct thinking. Memory, then, is the first element to be cultivated. Reasoning and judgment follow upon it. The power of reasoning cannot exist without memory, for reasoning is the faculty by which we infer what must be, by bearing in mind the facts from which our inferences are made. Judgment is the result of reasoning, and since reasoning is impossible without memory, judgment cannot exist without memory.

There are unquestionably minds possessed of good memories in which reasoning and judgment are not highly developed; but those who have the faculty of reasoning highly developed must, by inference, have good memories. The learned judge who weighs the facts in a case of law must not only keep the precedents well in mind, but must also have the faculties of comparison and deduction.

Memory, then, is the ground-work upon which the superstructure of the education should be reared. Words and facts should be added as materials are added in building; each should be kept in its proper place, and be intimately connected with that which precedes it. Surely no man would knowingly found his house upon sand, nor use poor material in the building of it; yet how often do we see an education built upon the veriest quicksand, of materials ill-suited to bear the test of the world's attrition, with here and there a gap, which adds to the fundamental weakness of the structure. The value of a good memory in mind culture has been recognized since men have been capable of logical thought, and the science of mnemonics has been taught since very early times. The mnemonics of the Greeks partook rather of a mechanical nature. They employed means by which words were suggested to the mind without the use of logical inference. Cicero modified this by endeavoring to establish a system of mnemonics in which reason should assist the memory. In England we find Roger Bacon applying the force of his original genius to the same purpose. In Germany we read of Leibnitz following in the footsteps of Winckelman in endeavoring to establish systems to aid the memory. The nineteenth century is not lacking in similar endeavors. In childhood the human mind is capable of receiving and retaining vivid impressions of the most minute detail. As adolescence approaches, detail appears to be less sharply defined, and trains of thought are more easily remembered. Many of us were probably able in childhood to remember poetry that had been read over to us several times, but find it very difficult in adult life to remember with exact accuracy any lengthy combination of words.

There is little doubt that the human mind is less impressionable for detail in adult life than in youth; but, to borrow an expression from the science of the eye, the adult mind has a larger field of vision. The memory does not soar so high, but it continues longer on the wing. Nevertheless, it is possible for the memory to be so cultured that it may not only soar high, but also continue long on the wing. As a rule, in the present system of education a child is given exercise for memory until it has arrived, probably, at adolescence. Memory is then practically abandoned, and the art of logical thought is begun, as if all that was possible had been attained by memory. The art of memory is not what is popularly called "cramming" in college, any more than the proper method of building tissue is to overfill the stomach, or of muscle building is to exhaust the strength. Our colleges are rife with this method of learning. Enter, in particular, one of our medical colleges just before the professor arrives; wait a few moments until he produces his notes and sets his watch before him, and you will hear a rush for books and pencils, and may observe through the hour three or four hundred men transcribing on paper words to be "crammed up" *fresh* just before examination. Their minds might grasp the whole theory of the lecture as easily as they could listen, if note-books were laid aside. They would then do their work in the lecture room, and the midnight oil and the nervous force would be saved. If they wish to refresh their memories, there are good books on the subject, from a variety of pens. Students seem to be imbued with the notion that they must answer on examination exactly as the professor has lectured, and give, by preference, the views of the professor himself. The fault hardly lies at the door of the student.

The value of the clinic is demonstrated just here; the student is induced to judge for himself by seeing, feeling, and hearing. He does not set down in a book what he sees, feels, and hears, but stores it away in his mind, to be "crammed up" on no occasion, and apparently forgets it, till some concatenation of events, years afterward perhaps, flashes it back to his mind. In discussing the cultivation of memory, we wish to lay the utmost stress on *attention*. The habit of commanding the mind to remember has great influence on the capability of retaining impressions. The systematic habit of remembering names may easily be cultivated; the systematic habit of forgetting them may equally easily be acquired. The arts of writing and printing have struck a damaging blow at the cultivation of memory. Things which we wish to have at our command are recorded in writing or printing, and stored away on shelves. As long as we can look around us and see our archives resting in security within our reach, we are content. The loss of them will throw us into consternation. We do not wish to be understood as saying that we should attempt to hold in the mind every fact worthy of being remembered. No, that is impossible, and there are many things better recorded in books than in the memory. A house should be fitted with a certain number of articles of furniture that are useful to the occupant, ornamental, and pleasing to the eye. The capability of selecting those things to be remembered that are useful and ornamental, shows a high order of mind. We have seen many such minds in college life—those that did an average amount of work, but showed good judgment in selecting what to remember. Men who possessed such minds seemed to obtain their success with great ease. It is a well-recognized fact that the blind have extraordinarily good memories. It is commonly said that the loss of sight sharpens their hearing and other senses, and increases the susceptibility of their minds to receive impressions, and the power of retaining impressions. The law of compensation undoubtedly is enforced under such circumstances. By the exclusion of sight, the mind is rendered practically dependent upon the hearing; the attention is enchained for the sense upon which the mind has chiefly to rely. The compulsory exercise increases the functional activity of the ear and the brain. Notes and books cannot be relied upon, and the mind is made, perforce, its own encyclopædia. It is not necessary, however, for one to become blind, in our opinion, to cultivate the memory to such a pass as one sees it cultivated in the sightless. The man who has both eyes and ears will receive more impressions than he with ears only. The eye and the ear assist one another, and if attention be cultivated and the memory properly exercised, there is no reason, physiologically, why all of us may not possess as good memories as if we were blind. Read what a blind man says:

"As partial compensation, in the midst of his many discouragements, the sightless pupil possesses one vital advantage over his companions. His memory, accustomed to seize and assimilate definitions and miscellaneous information at a single hearing, acquires both a marvellous alertness and a phenomenal retentive capacity, which enables him to master certain branches of study with singular ease and rapidity. Deprived of books and without any very ready and reliable method of making notes, he obtains a habit, often envied by the seeing, of appropriating instantaneously anything addressed to his intellect through his hearing. Hence the proverbially good memory of a blind person. His mind is a memorandum-book always at hand and always open."

Apart from the value of memory in forming judgment and keeping the past before us for our present and future good, there is in it a source of much pleasure and happiness.

In Campbell's "Pleasures of Hope" we find rather the pleasures of memory. Goldsmith has drawn for us a touching picture in the old soldier of "The Deserted Village," who "wept o'er his wounds or deeds of sorrow done, shouldered his crutch and showed how fields were won." From "England's Laureate Poet" we read that "a sorrow's crown of sorrow is remembering happier things." That form of memorizing is only desultory that recalls facts without connecting them. Memory should be cultivated so that fancy is linked unto fancy; the suggestion of one idea should raise a host of others; and that poet sang of an ideal memory who said:

"Lulled in the countless chambers of the brain,
Our thoughts are linked by many a hidden chain;
Arouse but one, and lo! what myriads rise!
Each takes its image as the other flies."

The *Journal of the American Medical Association*, of March 3rd, contains a letter from Dr. C. W. Kolloch, of Charleston, S. C., on the "Unethical Use of Physician's Names." Dr. Kolloch, who is an ophthalmologist, states the following grievance:

Two men, claiming to be "scientific opticians," came to Charleston, called on the leading general practitioners of the place, and asked for their names as references, stating that their work was that of artisans only, and that they did not interfere in any wise with the work of physicians. It is remarkable that many of the prominent physicians of the place gave them immediate sanction. It was not long before they commenced to influence the practice of eye surgery in Charleston. This is not surprising, seeing that they had the backing of prominent men in the city. Dr. Kolloch appeared before the County Medical Society and stated the case, complaining of the injustice which had been done him by the support of these men. They claimed not to interfere with the work of oculists, but yet, according to Dr. Kolloch, do not hesitate to tell people that some of the greatest oculists in this country do not know anything about prescribing glasses. One case is cited of an old woman with bilateral cataract, who was sold a pair of glasses for fifty dollars, and was told that if she had her eyes operated on they would be "put out."

The editor of the *Journal of the American Medical Association* sees in this letter an occasion to criticize the injudiciousness of physicians, in allowing their names to be published in connection with matters not strictly professional, and with which they are not fully acquainted. We see in this matter not only a text to suggest the just criticism of our contemporary, but one which will strike at the root of this evil—the prescribing of glasses by opticians. It needs no patriarchal experience to have had some upstart of an optician tell your patient that the glasses called for by your prescription are wrong, and that they will "put his eyes out." If the patient has not unlimited confidence in the scientific ability and in the experience of his consultant, such remarks will, to say the least, disturb his equanimity. The fitting of glasses is apparently an easy affair, and in uncomplicated cases of simple presbyopia, with the condition of normal refraction present, no great degree of scientific knowledge is demanded. Nevertheless, the prescribing of glasses without accurate knowledge of refraction and the phenomenon of accommodation is guess-work; and to arrive certainly at the fact that presbyopia alone exists in a case, demands more scientific knowledge than the average optician possesses. It is in the experience of every ophthalmologist to have encountered cases of difficult refraction that have come to him after some optician has exhausted all the spectacles in his show-case or trial-case. If it makes no difference as to whether correct or incorrect glasses are prescribed, there is no "raison d'être" for a scientific ophthalmologist, and the sooner this department of surgery is relegated to opticians the better.

A boy with common school education is taken into an optician's shop. He soon learns the difference between a convex and concave glass by looking through them. He learns in a short time to talk in an indefinite way about "errors of refraction" and astigmatism. He has *Jaeger's* tests at hand with which he clinches the nail of confidence that he drives into the gullible laity. He has sense enough to give them a glass that doesn't make them see worse. They leave, thinking they have been very fortunate to escape the necessity of paying a consultation fee to a regular surgeon. Perhaps their glasses suit them—perhaps not; in which latter case they return, and the courteous clerk allows them to try on as many glasses as they wish, till they satisfy themselves. If they can get no relief, they probably consult some scientific oculist as a *dernière ressource.*

This is no fancy sketch, but is occurring every day, even in our large cities. The optician is necessary to the oculist, and the oculist should be necessary to the optician. The one should be the artist; the other the scientist. No harm would be done if each were both artist and scientist; but this is practically impossible. The work which opticians in our large cities attempt to do, in prescribing glasses, is that which legitimately belongs to ophthalmologists; and the optician has no more right to attempt it, than the omniscient drug clerk has a right to attempt to practice medicine. Such a thing has never yet come under our observation, but it is not at all improbable that in the near future "consulting opticians" will prescribe prisms for insufficiencies, or even go so far as to discover cases of hyperphoria.

There is only one way to remedy the evil as it exists, and that is by legislation. Law should regulate what the optician should be permitted to do; and we are not taking suggestion by the forelock when we say that he should be restricted to the *making* and *selling* of optical goods. He should be allowed to sell no glasses correcting ocular errors, except by written prescription from licensed physicians.

We are not unaware that Drs. Fox and Gould have agitated this matter already. It is high time that some measures were being taken to protect the public at large, and particularly ophthalmologists, against the cheap science of "consulting opticians."

DR. HENRY KOPLICK, in a communication to the *Annals of Surgery* (February, 1888), after reviewing recent investigations as to the methods of Kümmel and Foster in disinfecting the hands in surgery, gives the result of Fürbringer's work in this direction:

His method was to extract from the subungual spaces of the fingers of chiefs and assistants in surgical clinics, whose hands were disinfected *à la mode*, small particles of matter almost microscopically invisible, and to carry these particles into sterilized gelatin.

"In only *one* case were *no* cultures of colonies of micro-organisms obtained," although thirteen men were examined in this way.

Dr. Koplick gives the following summary of Fürbringer's results: "After using the most irritating alkalies, 10 per cent. and 5 per cent. solutions, brushing the hands and nails for a variable length of time, and then treating with strong carbolic and sublimate solutions, the author found that he obtained colonies in the gelatin. The following method was found to give brilliant results, and the most perfect disinfection of the hands and subungual space. The nails having first been carefully trimmed and cleaned from visible filth, the hands are cleaned for a minute or a minute and a half with brush and soap, especially the subungual space.

"The hands are then washed in not less than 80 per cent. alcohol for a minute, and then, before evaporation of the same, they are brought into a 2-1,000 solution of sublimate, or 3 per cent. carbolic acid solution, and washed for an additional minute. The advantages of the above are, first, the *certainty* of disinfection, the saving of time, the sparing of the hands, and finally the cheapness. By the above method, either none or only one or two colonies (germs) were found in a culture.

"It is useful to know, that in order to prevent decomposition of the bichloride in water, the author finds the following a stable solution, and equivalent after months to a solution of sublimate in distilled water, strength one pro mille. To two litres of clean well-water add 10 c.cm. of an alcoholic solution of sublimate (1 in 5) and one gramme of acid aceticum Ph. G."

WE are in receipt of the *American Anthropologist*, published by the Anthropological Society of Washington. This is the initial issue. It is an octavo volume of ninety-six pages, containing four articles.

The two most interesting are "Anthropological Notes on the Human Hand," and another on "Time-keeping in Greece and Rome."

We have read the volume with much pleasure and advantage. The articles show a vast amount of painstaking research, and the journal should have the firm support of all those who are interested in medical or general science.

We confess a certain amount of disappointment in failing to find any mention, in the first article cited above, of the comparative anatomy of the hand of man and the anthropoid apes.

The refutation of the claims of cheirosophy while convincing was hardly worth the while of the writer.

The second article referred to, "Time-keeping in Greece and Rome," contains a world of interesting information. The klepsydra and the dial are discussed historically. The development of the former into the elements of the nineteenth century clock is neatly given. The article is scholarly and philosophical, but the author seems to show an inclination to draw the subject out beyond the necessary limits.

In the March number of this *Journal* it was stated that the paper on "The Individuality of Disease," by Dr. Edwin Barnes, was read before the State Association at its last annual meeting.

The editors regret to say that this was an inexact statement, the paper in question having been read before the Fifth District Branch of the State Association, at New Brighton, November 15, 1887.

THE GEORGIA MEDICAL SOCIETY has inaugurated a movement tending toward the removal of duty from surgical instruments and appliances. The accomplishment of this reform is of great interest to the laity of the country at large, as well as to the profession; for it is the laity who suffer when the physician is incompletely supplied with instruments.

It cannot be disputed that many failures result in surgery and in diagnosis from the lack of the proper instruments. Country doctors cannot buy the best nor the latest appliances for their work, as a general rule. They make a special effort to buy what they consider indispensable, and before they have had a chance to use the instruments half a dozen times, they see through the journals that much better instruments are before the profession and in the hands of the city physician. This is, of course, very disheartening, but with the present high prices for instruments, unavoidable.

As the same instruments can be bought in Europe at a reduction of from 25 to 75 per cent., there is certainly great need for the removal of duty from them.

Increased efficiency would thus be brought to every physician in the country, increased safety to every citizen, and such increased business to the home manufacturers as would enable them to bear with equanimity the decrease of price.

"THE BABY."—The College of Physicians of London have been obliged to administer reproof to some weak members who have recently been indiscreet enough to give their aid and countenance to two magazines intended for the lay readers of England.

The last of these periodicals was founded by a clever woman, who desired to enlighten anxious mothers in regard to the physical condition of their children. She called her magazine *The Baby*, and before she began it obtained promises of assistance from quite a number of physicians and surgeons. This indiscretion on the part of members of the College of Physicians was quickly reproved by the Registrar, and so *The Baby* had but a short life, and the anxious mothers are still under the necessity of consulting physicians in regard to their delicate progeny. The lesson to the amiable physicians who had meditated such sacrifice of their professional dignity (solely in the service of humanity) is a useful one, and worthy of contemplation even in this country.

Dr. Daniel, in a recent number of his *Texas Medical Journal*, advocates with much enthusiasm the plan of having one permanent place of meeting for the State Medical Association of Texas.

Everything points to Austin as the most desirable place for such a purpose, and it is probable that at the next meeting of the Association it will be decided to meet every year in Austin. The Association, under such an arrangement, could soon have a hall of its own and a library. Its archives would be accessible, which they are not at present. Meeting every year in the same place would have an excellent effect in suppressing the excessive social tendencies of the Association when it goes among new people, many of whom are anxious to entertain their unusual visitors. This hospitality interferes so greatly with scientific work as to makes its absence a real *desideratum*, and it is believed that a great impetus would thereby be given to the genuine work of the Association.

The president of the Louisiana State Medical Association is also making an earnest effort to accomplish a similar improvement in Louisiana. The result of these efforts will be looked for with much interest.

Unveiling of Tablet to Dr. Austin Flint.—Saturday evening, March 10th, at 8.30 there were assembled in the lecture room of the Carnegie Laboratory members of the graduating class of '87–'88, of Bellevue Hospital Medical College, and many members of the alumni, to witness the unveiling of a Memorial tablet erected to Austin Flint, M. D., LL.D.

The opening address was made by Dr. Webster, President of alumni, who stated the object of the meeting, and that some two years ago a committee was appointed consisting of Drs. Howard, Coke, Harwood, Leopold, Pretsel, W. Wells, and A. A. Smith, to carry out the wish of the members of the alumni to do honor to their distinguished friend and teacher. Dr. Leroy Milton Yale presented the tablet on the part of the alumni; in a very happy manner, he gave a short history of Dr.

Flint's life, the great good he had done, and his kindness to those under him.

The tablet was received by Dr. Taylor, President of the college. After the conclusion of Dr. Taylor's remarks, an opportunity was given for all to examine the tablet.

The tablet is of dark marble, upon which is a raised bronze plate; upon the bronze is the figure of Dr. Flint, with the inscription:

Austin Flint, M.D., LL.D.,
Born Oct. 20, 1812,
Died March 13, 1886.

Under the bronze is:

Erected by Bellevue Hospital Medical College, Alumni Association.

WANTED.—January and February, 1888, numbers of this *Journal.* Address them to the Publisher, Box 1124, and they will be paid for as the sender prefers, either in cash or by credit.

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ORIGINAL ARTICLES.

ARTICLE I.

SOME INTERESTING NERVOUS CASES, WITH AUTOPSIES.

By M. ALLEN STARR, M.D., Ph.D., Clinical Lecturer on Nervous Diseases, College of Physicians and Surgeons, New York.

I.—Sarcoma compressing the left cerebellar hemisphere.

The patient, a female, aged forty, of good family history and without syphilitic symptoms, presented herself at the clinic on September

16, 1887. She had suffered for two years from severe and constant headache, the cause of which she could not discover. She had never had a blow on the head nor a sunstroke, and she could not assign any reason for the pain. There was no periodicity about its exacerbations, which were at times very severe, and it was not worse at night. She was occasionally almost free from headache, but always had peculiar distressing feelings in her head. In addition to the headache she had suffered from a gradually increasing loss of eyesight, which had been noticed for at least a year and a half. This was found to be very marked, none of the test types (Snellen's) being visible at a distance of twenty feet. During the past year she had noticed occasional attacks of vertigo and nausea, but she had never vomited. She had had some ringing in her ears, but was not deaf. She had become nervous, and at times found "her legs heavy," so that she walked with difficulty. On one or two occasions, when walking, she had felt dizzy, and had been inclined to fall forward and to the right side; but this tendency had not been constant, and was never observed by me during a long series of observations. During the past two months she had noticed that she saw double. All her symptoms are gradually increasing.

Examination showed a large, heavy, stout Irishwoman, with facial expression indicating dim vision and pain. There was no tenderness of the skull or scalp, and no evidence in any part of the body of syphilis. Typical choked discs were found in both eyes, this conclusion being subsequently confirmed by Dr. Webster. There was a slight deviation of the right eye outward; but convergence was possible and fixation good, and the pupils reacted perfectly, though the left was slightly larger than the right. There was slight right facial paresis, but no deviation of the tongue. No paralysis or anæsthesia in arms, legs, or body. Tendon reflexes normal.

Diagnosis of cerebral tumor was made, but the symptoms were not considered to be sufficiently definite to warrant its localization. She was placed upon 100 grs. of iodide of potash daily, which was continued until her death, but without effect. Antipyrin in 15 gr. doses controlled the severe headaches for some time.

During the following four months she was carefully watched, being seen about once a week. The symptoms continued, the headaches being very severe at times, but not constantly localized on any one area. Vertigo occurred in attacks at intervals of two or three weeks; later, several times daily. In these attacks she seemed in great distress, held her hands to her head with eyes closed, and cried with pain.

Each attack lasted but a few minutes and left her exhausted, but was not associated with nausea or vomiting. On but one occasion did she vomit, and then she ascribed it to indigestion. Her pulse was always regular and about 76. The paresis of the eye passed off in about one month, and did not return. The paresis of the face did not increase. Her mental condition changed markedly. She became very irritable and forgetful and despondent, and at times had some difficulty in talking, the speech being somewhat thick, and trouble in finding words being at times so evident that a condition of aphasia was expected. This, however, did not appear. Her urine was normal in amount and contents. No further symptoms developed until one week before her death, which occurred on January 25th, 1888. She had been able to come to the clinic weekly until January 12th; then she became suddenly unconscious and helpless, and remained in this state for four days. During this time I saw her once. She could not be aroused, but presented no evidences of paralysis. The arms and legs were moved in response to stimuli of a powerful character, and reflexes were not increased. There was no paralysis of the eyes. At the end of four days she suddenly aroused and became wildly maniacal, declaring that her friends were going to kill her, calling for police, and making such a disturbance that it became finally necessary to send her to the Bellevue Insane Pavillion. She was there given hyoscyamia hypodermically, which quieted her. She sank into a comatose condition, and died quietly.

The autopsy was made by Dr. Douglas, to whom I am indebted for the account of it and for the specimen.

The tumor, measuring 2 by 1½ inches, was found beneath the tentorium cerebelli, to which it was attached by a small pedicle. It compressed the left hemisphere of the cerebellum, and had pressed the entire organ, with the pons and medulla, somewhat to the right. It had not destroyed any part of the organ, but the gray matter of the cortex was somewhat thinned and the convolutions flattened in the part adjacent to the tumor. All the cranial nerves were normal, and there was no evidence of degeneration in any of the tracts in the brain axis. The tumor was a sarcoma. The ventricles contained an excessive amount of fluid.

Remarks.—The absence of *cerebellar ataxia* in this case is to be ascribed to the fact that the middle lobe of the cerebellum was not involved. It is true that she had vertigo, and that on one or two occasions there had been a tendency to fall forward and to the right. But this symptom was not observed at any time while she was under my observation—though watched for. The absence of *vomiting* in this case is to be ascribed to the fact that the medulla was at no time compressed by the tumor, but was simply displaced laterally to a slight extent.

The existence of headache, choked disc and attacks of vertigo was sufficient to make a diagnosis of cerebral tumor, but was not enough to give any clue to its location. This is to be the more regretted, for had there been sufficient evidence of localization, and had an operation been undertaken the tumor could have been easily removed, as it was wholly independent of the brain tissue and in a capsule of its own.

The development of a maniacal condition prior to death is quite rare in these cases, although it has been observed,* and for it no explanation can be offered.

II. Acute Myelitis of the Lumbar Region.

History.—Martin M., aged 22, had been a perfectly healthy man until the onset of his present illness in April, 1881. While lifting a heavy weight he suddenly felt a sharp pain in the lower part of his spine, a numb sensation beginning at the hips and descending to the feet, and a feeling of weakness in his legs so that he fell to the ground and was unable to rise or move his lower extremities. He was picked up and taken to a hospital where all the symptoms of complete paraplegia were found. For a week after the attack he had total loss of sensation and of motion in the lower half of his body, and incontinence of urine and fæces; and within three weeks large bedsores had developed over the sacrum and on both trochanters. There was a slight return of sensation during the second week, but no recovery of motor power; and within a month a constant fibrillary tremor in the muscles of the legs was noticed, which has continued.

Status presens.—He was transferred to Bellevue Hospital in November, 1881, seven months after the onset of the paraplegia, in a condition in no way different, according to his own account, from that present the day after the attack.

Examination revealed the following facts:—

The patient is a large, fat man, well nourished, and shows no traces of suffering. He is totally paralyzed in the lower extremities and trunk below the middle of the spine. The muscles are relaxed, there is no rigidity or contracture, there is a marked fibrillary tremor, and the muscles are much atrophied, though the development of fat preserves the contour of the limbs. All reflexes are abolished. There is a total loss of faradic contractility, and reaction of degeneration in all the muscles of both legs.

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* Whittaker, *Cincinnati Lancet and Observer*, x, p. 276.

Sensations are almost wholly lost below the level of the ninth dorsal nerve, although he is aware of deep pricking in the right leg, feeling slightly the touch of the sharp instrument, but no pain. Temperature and pain sensations are wholly lost, but he is aware of the tremors in the muscles of the legs, and can estimate imperfectly the position of the limbs. A zone of hyperæsthesia two inches wide extended around the body above the ninth dorsal nerve.

There are no vaso-motor or trophic disturbances in the legs, but the large bedsores over the thighs and sacrum remain. These have exposed the bones, but the parts are insensitive. There is incontinence of urine, and a chronic cystitis is present. The fæces are passed involuntarily.

History.—The patient remained in a stationary condition for a month. He then developed an acute purulent myocarditis—described by Dr. William H. Welch before the American Association of Physicians and Pathologists, 1886—and died suddenly of heart failure.

Autopsy.—There was considerable opposition to a post-mortem examination by the friends—so that it was impossible to obtain the entire spinal cord. The portions below the first dorsal vertebra were however secured. The pia mater covering the cord was congested. At the level of the tenth dorsal segment of the cord a region of marked softening was found about half an inch in length. Section at this point showed such a degree of disintegration that the gray matter was not to be distinguished from the white columns. There was no evidence of hæmorrhage into the cord, and no deposit of pigment. Microscopic examination of the fresh cord at the lesion showed the presence of Glüge corpuscles in large numbers. An ascending degeneration was evident to the naked eye. No descending degeneration was to be seen, but the entire cord below the lesion was somewhat softened and the limitation of the anterior cornua was indistinct.

The cord was hardened in Müller's fluid and preserved in alcohol. Microscopic examination of sections made at various levels reveal the characteristic lesions of an acute myelitis.

(1) There is a great distension of all the intra-spinal vessels and a marked thickening of their walls. No hæmorrhages are found.

(2) There is a total destruction of the gray matter of the anterior cornua and central portion of the cord from the level of the tenth dorsal segment downward. The posterior cornua are destroyed at the

tenth dorsal segment, but have escaped in the parts below. The normal tissue is replaced by a dense mass of connective tissue in which numerous nucleated cells are found. There is no trace of nerve cells. The columns of the cord are sclerotic, and no trace of nerve fibres is to be found at the level of the lesion. Below the lesion the posterior columns and posterior nerve roots are normal, but all other parts are sclerotic. Above the level of the lesion an ascending degeneration is found in the column of Goll and in the direct cerebellar column, and for a short distance in the column of Burdach also. This also involves a zone of fibres extending forward nearly to the anterior median fissure around the periphery of the cord. And, inasmuch as there is no evidence of meningitis, it must be concluded that the ascending degeneration has involved a portion of the cord not included in the direct cerebellar column but lying anterior to it.

Remarks.—1. The history of the case shows the difficulty in distinguishing clinically between an acute myelitis and a spinal hæmorrhage.

2. The reaction of degeneration and the fibrillary tremors in *all* the muscles of the legs were sufficient proof during life of an extension of the lesion to the anterior cornua of the cord in their entire longitudinal extent below the level of the lesion—thus distinguishing the case from simple transverse myelitis.

3. The escape of the posterior cornua and posterior columns below the first lumbar segment is remarkable.

4. The extent and distribution of the ascending degeneration is remarkable.

Gowers, Haddon, and Bechterew have described an ascending degeneration in a peripheral zone of the antero-lateral columns lying anterior to the direct cerebellar column. In this case this zone was degenerated from the upper limit of the lesion as high as the second dorsal segment, above which, unfortunately, the cord could not be examined.

Gowers, in his recently published text book, argues that this antero-lateral ascending tract has for its function the transmission of sensations of pain. In this case all the forms of sensation were equally affected. Hence, no conclusions can be drawn as to the special function of this tract.

ARTICLE II.

Delirium Tremens.

By L. B. Anderson, M.D., Norfolk, Va.

This phrase is generally applied to that condition of the human organism, attended with mental aberration, and physical disquietude, excitement and agitation, resulting, for the most part, from the excessive use of alcoholic liquors as a beverage. There are some persons whose physical status and mental constitution are such as to be precipitated into the most violent form of wild delirium, by a comparatively moderate quantity of alcoholic stimuli. I have recently met with two cases, in which only two or three potations in moderate quantities produced the most violent hostile demonstration and required the utmost precautionary measures to avert the most serious calamities. And yet, in both of these cases, in a few minutes after free emesis, every symptom of delirium disappeared.

The acute madness, just described, has only occasionally been witnessed by me in a long practice. It is accompanied by the wildest demonstrations, during which the subject, evidently unconscious of his identity, regards not the the person of wife, father, mother, child, or friend, but would exterminate either with fiendish satisfaction. The sly, artful, cunning expression of the habitual drinker, when on a debauch, gliding into a state of nervous, fearful, apprehensive, shy, trembling alarm, bordering on consternation, is too well known to require a description. This condition may last only a day or two, under treatment, or it may be protracted for many days, and some cases have been reported as terminating fatally.

There seems to be no settled opinion as to the pathology of delirium tremens. Some consider it a high degree of nervous irritation, resulting from the exalted and protracted stimulation to which the nervous centres have been subjected. Others view it as an hyperæsthesia of the substance and meninges of the brain and spinal marrow, while others esteem it to be the result of exhaustion of the nervous centres from indirect debility. Between and outside of these there are as many shades of opinion as to the pathology and treatment of delirium tremens, as there are writers on the subject. Hence it is almost impossible for a physician in quest of information on this subject to arrive at any satisfactory conclusion. My own observation and experience have brought me to the conclusion that this disease arises often from different and opposite pathological conditions, and consequently requires very different and often opposite modes of treatment.

The acute alcoholic mania above alluded to I have seen relieved in ten minutes after free emesis. The same condition I have seen maintained and even aggravated by narcotics, hypnotics, anodynes, and stimulants. On the other hand, I have seen those cases of mild but persistent delirium, brought on by continuous drinking in what might be designated as moderate excess, relieved by two or three grains of opium, every two hours, until profound slumber was produced. In such cases, chloral, paraldehyde, bromide of potash, morphia, hyosciamine, etc., or various combinations of these, have failed to act, when opium alone has accomplished the object most successfully, producing profound sleep, from which the patient arises "as a giant refreshed by his slumbers." But there are cases resulting from very excessive prolonged drinking, in which the mental and physical, and often the moral observations are of a most violent character, in which neither chloral, bromine, morphia, Jamaica dogwood, opium, aconite, hyosciamine, antispasmodics, nor stimulants availed to produce sleep or quietude. These are cases which result in exhaustion and collapse, from the excessive and long continued cerebro-spinal irritation. This being, by far, the worst form of alcoholic delirium, I propose to devote a brief space to a discussion of its pathology and treatment.

In order to present the subject in the most comprehensive and vivid aspect, I report the following case:

Mr. D——, a young married gentleman, had been on a debauche for several days, and being from home, had had no restraining influences thrown around him, until he passed into a state of great nervous agitation and sleeplessness. In this state he continued for five days and nights, when he reached his home and I was called to see him. Assassins, snakes, vicious dogs, hideous monsters of every description, and legions of devils infested his room, and were constantly making hostile demonstrations against him. His eyes were rolling in restless anxiety and alarm — his pupils were alternately widely dilated or markedly contracted. His flesh was cool; skin relaxed and moist, countenance haggard; pulse small, soft, 130 pulsations per minute. He had not slept "a wink" for five days and nights. Three grains of opium were given every two hours, until twelve grains were administered, with only a marked increase of delirium, agitation, sleeplessness, and frequency of pulse. Then, chloral, bromide of potash, and fluid extract of Jamaica dogwood, in such doses as to consume one hundred grains of the first two, and half an ounce of the last in six hours, with no abatement of the morbid process. At this junction, a medical friend advised the use of tr. digitalis in conjunction with the above agents. Within twelve hours, three drahms of chloral, half an ounce of bromide of potash, and one ounce of Squibb's tinct. of digitalis had been given. Yet there was no tendency to sleep, and the pulse had become so frequent and feeble as to be scarcely distinguishable, while the nervous and mental aberrations were fearfully demonstrative. I became convinced that the system was laboring under some morbid impress which narcotics, hypnotics, sedatives, etc., could not overcome, and a farther persistence in their use would result fatally in a very brief period. What was that morbid condition, and how could it be removed?

In a section of country where so-called bilious fevers, assuming frequently an alarming congestive type, extensively prevailed, it had been my lot to practice medicine for several years. On several occasions I met with cases, in the old and young, male and female, whose habits were strictly temperate and abstemious, in which the symptoms presented in delirium tremens were most strikingly developed. At times the delirious demonstrations were mild and subjective, at others wild, demonstrative and objective. On one occasion I was summoned to visit a lady in a very wild, delirious condition, who had the day before been ordered by a commission of lunacy to be sent to an insane asylum. On another, a lady who had been several months in an asylum, was brought home by her friends who had heard of the above case, and placed under my charge, both of whom were restored in a few days to a sound condition of mind and body, and have so remained now fifteen years. The first case of this sort I ever saw, was in my early professional life while associated with my honored father, Dr. Thomas B. Anderson, of Caroline County, Va. A colored man had for two or three days been in a sleepless, nervous, trembling, maniacal state, talking with great volubility, or passing hours in a perfectly taciturn manner, but looking with great anxiety and apprehension in the direction of every sound, or imaginary sound or movement. His pulse was begining to indicate the effects the nervous strain was producing on his physical organism. His physicians had given him mild aperients—cupped him freely on the temples, and administered anodynes to produce rest and sleep, but with no benefit. I confess I was at loss to make a satisfactory diagnosis. I sought the counsel of my father. I had only begun a description of the case when he remarked, "I have seen many such cases, and you can cure him in twelve hours by giving him twenty grains of calomel—any less will be of no avail. He is laboring under torpid liver and distension of the gall-bladder, with black, viscid, acrid bile. The calomel will relax the ducts, enable the bladder to discharge its contents, excite the functions of the acini, relieve the blood of its vitiated freight, and cure your patient before morning." His advice was followed, and his predictions verified. Since then, I have treated many similar cases, including the two ladies above alluded to, in like manner with the like happy results.

The absolute failure of narcotics, hypnotics, anodynes and sedatives to produce quietude and sleep, and the striking similarity between the mental and physical developments in these cases, and my *mania a potu* case above described, induced the conclusion that the pathology of each was the same. I, therefore, packed a No. 2 capsule with calomel, which weighed twenty-two grains, and gave it. Nothing more was done, and in four hours he fell into a quiet sleep, from which he awoke in four hours to evacuate his bowels. The discharge was large, black, tenacious, viscid, and extremely offensive. His pulse at once declined from at least one hundred and sixty pulsations per minute, to one hundred. His reason assumed its throne, and the nervous agitation was greatly relieved. Twenty grains of jalap were given, with a cup of corn meal gruel, and he left to sleep. He slept profoundly for eight or ten hours, arousing at intervals to evacuate his bowels. All the discharges were similar to the first in quality and offensiveness, except the sixth and last, which was principally mucus, and intestinal secretions deeply tinged with healthy bile. From this time his convalescence was rapid.

I attended a young man recently, twice in thirty days, with delirium tremens, on whom calomel in both instances produced the happiest sedative and hypnotic effect, in from four to six hours. In the third attack, two weeks after the second, he was seized with the third attack, more violent than either of the preceding. And having given so much calomel so recently, I concluded to try the effect of cayenne pepper, a teaspoonful of which, in powder, was administered at once, and ten grains in capsules were directed to be given every hour, while awake. The first dose produced the most violent burning in the stomach and frantic efforts to obtain cold water. After some half an hour or more he was gratified, and imbibed at one draught nearly a quart. He immediately became quiet, took one capsule, fell into a calm sleep, awoke after several hours, and had a discharge of a large quantity of black, tarry bile and mucus, similar to those produced by calomel.

It is very evident that the excessive use of alcoholic stimulants will produce both by its chemical and physiological action, indirect debility of the vaso-motor nerve centers, and torpid relaxation and congestion of the intestinal and hepatic capillaries. As a consequence, secretions will be suspended or greatly impaired, vitiated matters will be retained in the livers and intestinal glands, ptomaines will be developed, and the cerebro-spinal axis will be either highly excited or rendered lethargic, according to the nature of the ptomaines.

The indications are to remove the pent-up secretions, to excite the secretory organs, and thereby remove the sources of the poison, as well as to eliminate that already generated from the system. To accomplish these ends, calomel in large doses is almost absolutely infallible. The action of the pepper attained in the case above given indirectly the same end. But in a case recently under my care, in which other physicians had failed to produce sleep or even quietude by morphia, opium, chloral, bromide of potash, paraldehyde, etc., pepper also failed, when twenty grains of calomel, followed by a large dose of sulphur, in four hours, produced calm and refreshing sleep in six hours, from which the patient awoke to discharge an unusually large quantity of black bile, with prompt relief of all his troubles.

From analogy, I reached a conclusion in regard to the pathology of many cases of delirium tremens, which suggested a treatment based on purely physiological and scientific principles, which has proven eminently satisfactory and successful. From analogy I arrive at the conclusion that the chemical changes which take place in retained secretions generate organic alkaloids or ptomaines, which produce the symptoms, often very diverse, owing to the varying character of the ptomaines, which are developed in the progress of delirium tremens. It is known that ptomaines are produced in degenerating organic matters, of very diverse chemical and physiological characters. Ptomaines resembling the alkaloids of opium, nux vomica, henbane, belladonna, and almost every known vegetable alkaloid, have been discovered in degenerating organic matters. A few years ago I was summoned to visit hastily a young man who was reported to be in a violent frenzy. On my arrival he presented all the indications of one laboring under delirium tremens. Upon a full investigation of the case, I discovered he had been laboring under stables and, by the advice of some one, had anointed himself with an ointment made by stewing stramonium leaves in lard. An active cathartic aroused the secretions and thus eliminated the poison from the blood, and swept it through the alimentary canal and kidneys from the system, and in a few hours he was relieved: In this case the mental and physical manifestations were so similar to those presented in certain forms and stages of delirium tremens as to suggest a striking analogy between their pathogenic causes.

When all the organs of a human organism are performing their functions perfectly, that organism is in the highest state of health. Any departure from this status is disease. The first, if not the highest function of a medical man is to diagnose or detect the nature and extent of such aberration. Whatever be the nature or extent of such aberration, so soon as it is restored to its normal status, health is re-established. Hence, the next great function of the physician is to restore every organ to its appropriate work. To accomplish this he must not only know the location, anatomy and physiology of an organ, but the relation it sustains to other organs, and the physiological effect of morbific and therapeutical agents upon it. When one practices on the hypothesis that mythical germs are the pathogenic cause of disease, and spends his time in a vain search for and application of supposed germicides, or who recognizes fever as a disease, instead of an outward manifestation of an internal pathological condition, and consumes his time in administering antipyretics to suppress this gracious indication of the nature and extent of the internal trouble, while that trouble, unchecked, is doing its fatal work, he is but wasting precious time, ignoring the great physiological laws by which the animal economy is controlled, and fearfully tampering with human life. When, therefore, the liver, whose functions are of such vital importance, has those operations prevented, suppressed or obstructed, in accordance with the united testimony of every observant, practical and successful physician for centuries past, Rinzer and Hahnemann, to the contrary, notwithstanding, nothing is so certain and effective in removing the trouble as a full dose of calomel.

I have had some cases in which one full dose of calomel failed to empty the gall-bladder or afford any ostensible relief. In such cases, hot poultices over the abdominal region, fully covering the liver, sulphur and cream of tartar, decoction of aloes and soda, and a second dose of calomel have sometimes been required. But where anodynes have been employed before the removal of the vitiated contents of the gall-bladder, they have failed to accomplish satisfactory results. Hence, in all chronic cases, it seems best to remove vitiated accumulations and restore the secretions before resorting to hypnotics.

ARTICLE III.

A CASE OF ACUTE MANIA FOLLOWING ARTICULAR RHEUMATISM.

By JAMES C. HANNAN, M.D., of Rensselaer County.

Delivered before the New York State Medical Association,
September 29, 1887.

So numerous and varied are the affections or agencies which from time to time disturb the habitation of human thought, from the slowest chemical process to the quickest electrical vibration; from the rude effects of physical force to the finest and most delicate psychical influence, that a timid man may well hesitate before he enters so vast and so intricate an enclosure, a *terra incognita* where variety and speculation play him the part of *harlequin*, until he loses himself amid the phenomena of physical, mental, and moral conditions. I claim not to belong to the inner circle; I am but a simple worshipper at the shrine of science. I dare not profane her sanctuaries farther than to bring my offering to the doors of the temple, and content myself by remaining at a respectful distance from the sacred fire which consumes the dross, and refines and purifies the essential elements of all that is good in man. I stand, as it were, gazing in through the portals of this great edifice; I behold the priests of Minerva Hygeia ministering at her altar, while at the same time I can see the Grim Tyrant, in sable robes, standing in the background, with hollow orbits and ribs of death, laughing in horrid mockery at the feeble efforts of scientists in their exposition of nature's laws, and the exertions of the physician who attempts to change the order which governs the silent processes of growth and decay. Hamlet asks: "Canst thou minister to a mind diseased?" I have tried it more than once, and signally failed! Not long since I was brought face to face with a malady which sent me out to sea with a broken rudder, and by your permission I will now relate it. The subject of my experience was a young man, seventeen years of age, remarkably grown for his years. He measured five feet ten inches, and weighed about 145 pounds. His complexion was dark, and he had black hair, black eyes, large bones, and was tough of constitution—such a frame, in fine, as one would suppose to be capable of any amount of endurance. He was fond of athletic exercises, cheerful of disposition, and an excellent student. Some three years before he had applied to me for a cough mixture, saying he had a "bad cold." On inquiry, he confessed to general weakness and lack of spirit, that he "felt his chest drawn in," etc. From his cadaverous appearance, cough, and rounding of the shoulders, his friends and neighbors hinted that he was "going fast into consumption." I afterward subjected him to a physical examination of the chest, with the following results: On inspection I noticed some flatness of the chest walls, but the respiratory movements seemed to be normal, with the exception of slight dullness in the right clavicular region. The percussion note was not so clear as in the corresponding space on the opposite side. The signs furnished by auscultation were a little more decided. Instead of that pure vesicular murmur recognized in a healthy lung, I discovered a slight degree of rude respiration and a few râles in the right lung, just sufficient to mar the rhythm of the respiratory murmur, and no more. His evident loss of youthful vigor, the cough, expectoration, and general malaise caused me to suspect a developing tuberculosis, and I brought my batteries to bear upon him after the manner of the schools. The result was that the cough and expectoration diminished, whether by the aid of such weapons as morphia, cyanide of potassium, ipecac, tolutan, prunus virginiana, hypophosphites, etc., I know not (they received the credit, however), and I poured volley after volley of tonics and stimulants into him, until he began to grow erect, consumed more and more food, until one day he exclaimed, "Doctor, I am doing finely!" He attended school regularly, had a good memory, and learned easily. He possessed many excellent qualities of head and heart, was friendly in his intercourse with all, and faithful to an unusual degree. His filial duties to his widowed mother were affectionately performed. His character was beyond reproach, and although religiously inclined, he was full of buoyant spirits, and indulged freely in the sports common to boys of his age. The summer before he died he accompanied a gentleman and his family to their farm in New Hampshire, where he worked in the fields during the season, and returned in the fall looking remarkably well. He called in a day or two to inform me that "he never felt better in his life."

He resumed school again and made rapid progress in his studies. In March he began to droop, cough a little, and applied to me once more for assistance. I again examined him, but found nothing of importance enough to arouse my fears; but, to afford him the benefit of the doubt, I began my administrations of tonics and alteratives, and directed him to leave school and take moderate exercise in the open air. He did as I requested, and he appeared to do well for some five or six weeks, when a change took place; he began to cough more, complained of weakness, and I was again summoned to his home. I now asked him to remove some of his clothing, in order to give him another examination, when suddenly he fell into a fainting fit, fearing that I might find something detrimental to his life. I proceeded no further with my investigations on that day, and left the the house, asking him to call at my office in a day or two. He requested his mother to keep that little incident private, lest his companions might chafe him for his want of bravery. A few days after this event, I was sent for again, when, to my surprise, I found him suffering from a swelled and painful knee-joint! He claimed he had not hurt it in any way, and, as he had no marked febrile symptoms to awaken suspicion of constitutional disease, I queried with myself whether he was not developing synovitis or some other inflammatory disease of the joint. I forthwith prescribed a saline cathartic and hot fomentations, which were continued with pleasing effect, until my eyes were opened to a similar affection in the other knee, the pain and swelling passing rapidly and with greater disturbance to the upper extremities. This furnished me with a diagnosis, and I at once placed him under salicylic acid and borax treatment; and, to his great relief and my satisfaction, all symptoms of rheumatism left him in about eight days, when he desired to get out of bed, and put his clothes on. This privilege being allowed, he once more resumed his place in the family circle, feeling apparently quite comfortable. Two days after this, his mother called to say that Arthur had not slept any the night before; that she suggested to have the doctor sent for, but he peremptorily refused to see that personage, claiming that he was "all right" and wanted to go out of doors. I called upon him in about an hour's time; and, when I entered the room, I found him reclining on a sofa, and, for the first time, I could see that I was not welcome. I asked him how he was getting along. He answered: "Oh, pretty well," and inquired if he might go out for a walk. I noticed a strange expression about his eyes, and a nervous twitching of some of the facial muscles, particularly those at the angle of the mouth, which now and then were drawn spasmodically backward, as if that branch of the facial nerve which supplies these muscles was very much disturbed. I also noticed a slight and peculiar defect in his speech—a kind of forced effort to enunciate distinctly. He exhibited also a few jactitations of the limbs, especially while I watched him. I then said: "Arthur, if you were a girl, I should say you were suffering from an attack of hysteria, although boys are occasionally subject to such an affection; or chorea may be setting in, perhaps." This announcement irritated him a little, but he made no reply. I now gave him an antispasmodic, and said I would call again in the afternoon.

I then took my departure, not satisfied, however, with the condition of things, and made a visit two miles away. On my return I was again sent for, in great haste. His mother, it appears, had stepped out for a short time, and when she returned she found her son tossing and tumbling like a first-class acrobat or contortionist, but with a greater degree of violence and less method. Help was called for, and it took the united efforts of three men to restrain him from injuring himself and breaking everything in the room. He made a raid on the mirror of his bureau, which had to be removed from his sight, and a dash at the window as if he would like to go through it. He reproached his mother and myself with mesmerising him; accused me of having a battery up my sleeve; and refused both medicine and nourishment on the ground of our smuggling poison into them. Reason and persuasion were valueless in trying to convince him of the necessity of taking both, so that my only resource was chloroform by forcible inhalations. Half an ounce put him to sleep. When the influence of this powerful agent died away, he awoke as violent and as ungovernable as ever. He talked away at random and struggled hard to free himself from the firm grasp of his keepers. He doubted the veracity of his friends and attendants, and if anybody made a statement in his presence, he would call for his Bible, and make the party put the hand up to verify to the truth of what was said.

He prided himself on his high sense of honor and the integrity of his motives. He wished to be at liberty that he might visit his friends in Massachusetts and Vermont, and desired to take part in the execution of wild and visionary projects. He easily recognized his friends and neighbors and extended to them a cordial greeting as they entered his room. His memory remained intact and he seemed pleased at the recollection of any incident within the cycle of his social knowledge. He complained of no pain either in his head or spine, had no chill, no soreness of the muscles, no tenderness of the abdominal organs. His respirations were normal, pulse regular, and a fair volume; temperature but slightly elevated; passed the usual quantity of urine, which had no alkaline reaction, with a specific gravity varying from 1020 to 1050. The urine became turbid when subjected to the boiling test, but cleared up on the addition of a few drops of nitric acid, showing earthy phosphates to be the cause of its cloudy appearance; so that this fluid afforded me no aid in forming a diagnosis. His paroxysms of frenzy came on suddenly and about every ten minutes or so, during which he had no control over his actions. He raved incessantly; assumed all shapes and positions, exhibiting enormous strength in his blind and aimless fury. It took the united efforts of two men to keep him in bed, where he thrashed, tumbled, talked away, and sought to overcome his attendants. I now ventured to make a final diagnosis, and told his friends that he was suffering from an attack of *acute mania*, and suggested to have him sent to an asylum. The family not being favorable to such a course, I called for a consultation, and Dr. William Watkins Seymour, of Troy, was sent for. This gentleman soon arrived and made a thorough examination which appeared negative in its results, i. e., as far as the physical exploration was concerned. He discovered no local lesions, such as would impeach the bad conduct of any one organ of the young man's system, aside from an anæsthesia or diminution of the sense of feeling when he prodded his legs with a pin. Ophthalmoscopic inspection detected no difficulty with the optic nerve nor its adjacent tissues. He finally concluded that our patient was suffering from some severe affection of the nervous system, and sustained my diagnosis of acute mania. About the fifth day of the maniacal stage he assumed a more tranquil attitude; returning reason began to assert itself, and he commenced to take moderate quantities of food; offered no objections to his medicines, and the family fondly and eagerly hoped the disease was passing away. But such expectations were of short duration. Gloomy forebodings took the place of happy anticipations, as a fresh and furious outbreak of maniacal excitement set in, accompanied by tumultuous clonic spasms which were kept up at intervals of from ten to twenty minutes, despite the power of chloral, opium, valerianate of ammonia, hyoscyamus, the bromides and other powerful sedatives and antispasmodics. Our only hope lay in the controlling influence of chloroform, to which we were obliged to have recourse. For three days prior to his death he had an attack of ataxic aphasia paralysing the tongue in a marked degree, so that it was with much difficulty he could be understood. During this period I noticed a new phase of things from the fact that one of his feet and one arm presented a swollen condition without œdema, which disappeared in two days. A somewhat similar appearance accompanied with paralysis was noticed in the upper and lower extremity of his left side during his period of repose, but at the moment of exaltation he seemed as active as an eel out of water. The paroxysms now became less frequent, but more intense in character; the patient grew weaker between the spasms, and he died quietly on the 21st of April, just eleven days from his first attack of insanity.

I asked for a *post mortem* examination for the reason that I had some misgivings as to the exact nature of the malady, and to satisfy the friends of the deceased, some suspicions being thrown out as to the correctness of my diagnosis, treatment, etc. I had been taken sick myself, during my attendance on this case and confined to bed for a couple of days, and I had requested the family to send for a neighboring practitioner; that gentleman jumped to the conclusion (in direct violation of our ethics) that the case was one of *spinal meningitis* and prescribed accordingly. His remedies, however, had no more effect in quieting the patient than if he had given him five drops of the 30th dilution. My request for a necropsy being granted, I telegraphed to Dr. Seymour to come on, to which he kindly responded in person, bringing another physician with him. When the body was exposed, it presented very great emaciation. The calvaria being removed, we found very little of importance in the membranes. The surface of the hemispheres was somewhat altered, the network of vessels being distended, capillaries hardly discernable to the naked eye in health were now perfectly visible and well outlined. The convolutions around the middle portion of the *longitudinal fissure* were very slightly softened with a few specks of a whitish deposit along the margin. These few little points or patches seen in this location, were crescentic in form, and the largest was about the size of a small pin's head. On slicing the hemispheres, the grey and white matter were clearly defined and in proper relation to each other. My consulting surgeon thought the cut surfaces showed more bloody points than natural, but I must confess that I was not of that opinion, and even if it was so, I could not attach as much importance to such superficial lesions as did my distinguished colleague. I could not discover enough of broken down or altered tissue in the hemispheres to warrant sufficient disturbance such as would lead to the terrible suffering and death of this young man! The under surface of the hemispheres was perfectly healthy; so was the medulla, the cord and its membranes; which went to show that my esteemed friend and neighbor whom I sent as a substitute was very much mistaken in his view of the case; and I shall exonerate him by saying that he did the best he knew how and nothing more can be expected of any man.

After examining the brain of this young man my scientific friends were obliged to avail themselves of the first train for their homes, and as I sat there unsatisfied with what I had seen, I resolved to make a further search, and I opened the thorax and abdominal cavities to find all the organs in their respective positions free from disease, except the right lung, which varied a little from its fellow on the opposite side, in that I found quite a number of miliary tubercles scattered here and there through its apex. This terminated my investigations, and now comes the after-thought and the query, what killed this young man? In a few days I received a letter from Dr. Seymour, in which he quotes Savage on brain lesions produced by rheumatism and the development of other local inflammations within the body. I have not read anything from the pen of the amiable and accomplished Dr. Savage, but I have consulted the very able treatise on rheumatism, by Dr. Fuller, of London, in which he says " that cerebral disturbance is not always symptomatic of brain inflammations, and that a patient suffering from acute rheumatism may pass into a state of violent delirium and die comatose or convulsed, although, on dissection, neither the brain nor its membranes present the slightest trace of inflammatory action. Nay, more, it has been proved beyond dispute, that although in some rare instances, the symptoms alluded to, do indicate inflammation of the brain or its meninges, yet that such is very rarely the case; that more generally, they are coincident with inflammatory action about the heart and unconnected with any cerebral lesion; it frequently accompanies pleuritis or pneumonia, and that to an alarming extent, when neither the brain, nor the heart, nor the lungs are affected."

Where, then, do these violent and maniacal symptoms come from, or what is their motive power? The learned author tries hard to unravel the mystery, but he gets no further than *probabilities*, and goes on to recite cases, leaving the reader to draw his own conclusions. As a learned and progressive body of physicians, allow me very respectfully to ask you a few questions touching this case. First, was I correct in calling it *acute mania*, or *acute delirious mania*, as some super-exact gentlemen will have it? Second, was the mania due to the rheumatism by a metastasis? Third, was the terrible struggle, such as I have described, a protest by the sensorium against the invasion of its blood supply? Fourth, is internal inflammation necessary to furious delirium and tetanic spasms? Fifth, is it certain that the first part of my patient's sickness was rheumatism—pure and simple? Sixth, have I done all that could be done in combatting so formidable a disease? Bear in mind that I was complimenting myself on the rapid recovery of my patient from his rheumatism, and began to sing the praises of salicylic acid and borax, when, all of a sudden, my inspiring music was changed to a funeral dirge, and I said, with Banquo, " The earth had bubbles as the waters have, and these are of them!" There are many among us who hold to the doctrine that brain disturbance is due to the anatomical relations of the heart with the cerebrum; the irritation being conveyed by the former to the latter through the medium of the phrenic and pneumogastric nerves; but, in the case before us, there was no embarrassment about the central organ of the circulation to warrant any such disturbance as our subject exhibited, and we must therefore discard cardiac influences altogether in this instance. Grisinger, of Berlin, in his Pathological Anatomy of the Brain, speaking of acute mania, argues that advancing tuberculosis, prolonged excesses, and the like, give rise to a course of acute mania. I am not willing to accept any depraved habit as a predisposing cause in this case, seeing that my patient was perfectly exemplary. The *post mortem* had put aside the possibility of meningitis, and the very slight lesions found on the convexity of the cerebrum were not at all commensurate with the severity of the brain symptoms. That there was a condition of anæmia existing in our patient is beyond question; but how far this moderate reduction of vitality contributed to the maniacal stage, I am not prepared to say. Again, most mental pathologists tell us that "pure mania arises from other mental derangements, such as partial dementia before or after the excitement; by shock, where the strain on a finely organized system is great." Such sensitive souls give full swing to their emotions, until they become the butt and sport of psychical influences; hence, the number of insane from love, hatred, fear, grief, loss of friends, home, fortune, and kindred. Our patient had no such motives; he was seized, after a short period of general malaise, with a brief visitation of what appeared to be articular rheumatism, which lasted about eight days, died, as it were, in the body, and resurrected itself after a repose of a few days, to re-establish its power for evil among the organs of intellection. This to me is as much of a mystery, and more than the riddle of the sphinx! Neither was I as sure of the cause of death as my friend, Dr. Seymour; i. e., the abnormal conditions found at the autopsy were not, in my opinion, in proportion to the final result. I fear that this and similar cases will ever remain a source of doubt and perplexity to medical science. Mental anatomists talk learnedly of the seat, causation, mode of action, deviations, and analogies of intellectual disturbance; how that one form of insanity leads to melancholia or dementia; another to crime or suicide; one arising directly—another indirectly; now a poor fellow becomes a raving maniac with murderous propensities, while another assumes the idiotic type—quiet and harmless as a lambkin on the side of a hill; one becomes as rich as Vanderbilt, although poor as an Irish tenant, at will, or a Manchester stocking weaver; one is the victim of piety and is religiously crazy, his time being constantly devoted to beads, prayer books, and bibles. One fancies himself king of the jungle and roars like Bottom in "A Midsummer Night's Dream," while another imagines himself a wood-chuck or squirrel, afraid of his own shadow. Some possess the all-powerful and fancy themselves capable of moving mountains, while others, again, imagine their bodies to be the receptacle of divers kinds of devils, from whose diabolical antics they are tormented day and night. If we add to this singular list the anomalies of thought and sentiment, sensation and movement, we have a complex system of mental phenomena as intricate and mysterious as the *Milky Way*. In conclusion I would respectfully ask: What is your diagnosis from all you have heard? And, if any one of you were called to treat such a case, what would you do to restore to the widow her son?

ARTICLE IV.

NOTES ON THE PHARMACOLOGY OF EUCALYPTUS.*

By Dr. J. C. BIERWIRTH.

Eucalyptus globulus, the blue gum tree of Tasmania, was discovered in 1792 by the French botanist Labillardière, on Van Dimen's Land, growing along the moist slopes of wooded hills and on swampy ground. There are about 150 species of the genus eucalyptus, but the only one which is of use for medicinal preparations is the eucalyptus globulus. It is remarkable for its very rapid growth, and for the great height it attains, which is variously stated at from 200 to 400 feet. Some fallen trees in Australia were measured and were found to have a length of 420, 480 and 365 feet respectively, the latter having a girth of forty-one feet at a distance of three feet from the ground. The trunk is smooth, of a grayish color, and its timber very hard and proof against vegetable parasites. The leaves of the young trees are opposite, broadly ovate, smooth and of whitish green color; whilst on full grown trees they alternate, are from six to twelve inches long and of an oblong-lanceolate shape, smooth and shiny, of a dull green color, and of a leathery consistency, having numerous immersed oil glands.

The parts used in medicine are the leaves. The fresh leaves of the full-grown trees only should be used, as they are more efficacious than the leaves of young plants. The principal constituent of the leaves is a volatile oil, oleum eucalypti, which is readily obtained by distilling the leaves with water. Freshly distilled, this oil is of a yellow color, becoming brown and resinous upon exposure, and having a pungent, aromatic taste and a strongly camphoracious odor. The recently dried leaves yield about six per cent. of the oil. Cloëz found that the principal constituent of this oil was a colorless liquid, which he regarded as analogous to camphor, and he named it eucalyptol. Subsequent investigations by Faust and Homeyer showed that this consisted of a terpene and cymene. It was formerly imagined that eucalyptus leaves also contained one or more of the alkaloids of cinchona bark, but this has been entirely disproved by the British government chemist, Broughton. The adulterations of the oil were by Duquesnel found to be, alcohol, fixed oils, oil of turpentine and oil of copaiba. The other preparations of the leaves which are used in medicine, besides the oil, are the fluid extract, the tincture and the dried leaves rolled into cigarettes; officinal of these are only the oil and the fluid extract.

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* Read at the Kings County Medical Association, April 3, 1888.

The discovery of the medicinal virtues of eucalyptus was, like most such discoveries, accidental. Some forty years ago the crew of a French man-of-war, having lost a number of men with so-called "pernicious fever," put into Botany Bay, where the remaining sick were treated with eucalyptus and rapidly recovered. The natives were said to have known of its curative powers for a long time, using the crushed leaves on wounds, and a decoction internally for numerous ailments. Dr. Ramel, of Valencia, and Dr. Brunel, of Montevideo, some twenty years ago, reported enthusiastically their results obtained in the treatment of intermittent fever, placing it as equal with cinchona in efficacy. But, as with most new medicines, these wonderful results were not confirmed by subsequent calmer observers, who gave it a thorough trial in the malarious districts of the East Indies, and reported but little curative powers in intermittent fever. The trees have been extensively cultivated in America and Europe, especially in the swampy regions of Florida, California, and along the Mediterranean. It is claimed that they have drained these swamps and made places habitable where formerly no human being could exist. In the Campana, near Rome, in Italy, they have been of great service, and have opened up for habitation large tracts of land.

There are several other, than medicinal, uses of eucalyptus. The oil of eucalyptus globulus, together with the oil of the other species, is used for diluting the more delicate essential oils, for flavoring purposes. The bark is also used as an antiperiodic, and for tanning and dyeing. Eucalyptus kino is a resinous substance exuding from the bark, which hardens into reddish masses upon exposure, and looks like kino, hence its name. It is used, like kino, for dyeing and tanning, and in medicine as an astringent. The timber is very hard and very valuable for building purposes, especially for ships, as the planks can be cut of great length.

ARTICLE V.

EUCALYPTUS GLOBULUS AS INTRODUCTORY TO A DISCUSSION OF ITS INTERNAL AND EXTERNAL USES AS A THERAPEUTIC AGENT.*

By DR. J. R. VANDERVEER.

It may be stated, prefatorily, that this paper is not introduced as an extended essay, or a full résumé of the literature relating to eucalyptus, but is submitted as an entering-wedge to a discussion which it is hoped will elicit the experience of those present as to the internal and external uses of eucalyptus globulus, the subject under consideration this evening by the Association.

The earliest therapeutic use of the species eucalyptus seems to have been in the way of an astringent, in one of the forms of kino which was obtained from inspissated and dried sap from the trunk of eucalyptus resinifera, and probably from that of others of the eucalyptus family as well. This was the drug known commercially as Botany Bay or Australian kino, and was the only product of the tree alluded to by the early writers on materia medica.

The other properties of eucalyptus became known to the outside world by accident, it is said, although the natives of the places where the trees of this species were indigenous had long used the leaves for the cure of intermittent fever.

About the middle of the present century, it is related that thirty-two of the crew of the French corvette "La Favourite," while on a lengthened voyage, were stricken down by a "pernicious fever," and died on board. The remaining invalided crew were landed at Botany Bay and were treated by the natives with infusion of the leaves of eucalyptus globulus, and all recovered. This is vouched for by Gubler.

In 1857 Ramel introduced the seeds of eucalyptus globulus into France, for planting, on the supposition that the tree, in growing, extracted malarial properties from marshy soil. From France, the cultivation of the eucalyptus tree was spread into Algeria, Spain, Corsica, and the countries bordering on the Mediterranean Sea in Africa as well as in Europe. The eucalyptus tree has become acclimatized in

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* Read at the Kings County Medical Association, April 3, 1888.

Cuba and other West Indian islands, parts of South America, the southern portions of the Atlantic and Gulf United States, and parts of California. Attempts to cultivate successfully the tree in other regions of America have failed. Dr. Alexander Jamieson, in his report to Sir Robert Hart, Inspector-General of Chinese Imperial Maritime Customs (Medical Reports No. 10, 1875), writes that "attempts have been made with but scant success to domicile the eucalyptus globulus in Shanghai. In India like attempts have also failed. The sanitary commissioner (11th Annual Report, p. 42), states that in the lower provinces of Bengal it thrives as a seedling, but becomes sickly after eighteen months, and generally dies before the third year." *

In 1870 M. Cluez, and in 1872, MM. Debray and Rabuteau, announced as results of researches made by them, that eucalyptus globulus consists of chlorophyl, cellulose, essential oil, resin, tannin, lime, and alkaline salts. (New Remedies, vol. 3, p. 102.) In 1877 Poehl failed to find the presence of any alkaloid (op. cit., vol. 6, p. 364).

The employment of eucalyptus globulus in the treatment of intermittent fever appears to have been extensively introduced in southern Europe in 1865 by Tristany, Brunel, Carballo, Malingre, Ahumada and others. Gimbert, in a thesis on eucalyptus in the periodic fevers, has given the results of the experiments of eight observers, in addition to his own, in 776 patients, with the results of 508 cures and 278 failures. (Treatise on Therapeutics, Trousseau and Pidoux.) On the contrary, it is stated, (op. cit.) that Burdel, out of 126 cases of tertian intermittent had 112 failures under eucalyptus treatment, and that Papillon, chief physician at the hospital of Mascara, "had not been much more successful."

Hertz, (Ziemssen's Cyclopædia of the Practice of Medicine, American edition, vol 2, p. 669), gives the report of Groos, of Hungary, in 432 cases; 310 cured and 108 followed by relapse. Of 118 cases said to have been previously treated by quinine, 81 "were completely restored by eucalyptus." Mees, 35 cases; 13 cured, "in a number of which quinine had completely failed." Papillon, 17 cases, 6 of which recovered without treatment, 2 under eucalyptus and 9 under quinine, when eucalyptus had failed. Reports of other cases are given where quinia had succeeded after the failure of eucalyptus. In summing up, Hertz states that "the great lack of unanimity in the results arrived at under this treatment" (eucalyptus) "doubtless depends, to a certain degree, on the employment of too small doses; the quality of the preparations used has also a good deal to do with it, as the trees that

*Shanghai, 31 degrees, N. L. Hobart-Town, Tasmania, about 43 degrees, S. L.

grow in their native soil yield more valuable leaves than those cultivated in Europe; the fresh young leaves, too, are more effective than the dry ones." He also states that there would probably be a difference as to whether the cases of fever treated were recent or of long standing. Hertz recommends as the most potent preparation an alcoholic extract from the fresh leaves.

Mosler, in an article on diseases of the spleen in Ziemssen's Cyclopædia, observes that his experiments show that eucalyptus has the property of contracting the spleen in the same manner as quinia.

In the contribution on typhoid fever in Pepper's System of Medicine, by Dr. J. H. Hutchinson, of Philadelphia (vol. I., p. 331), he relates that Dr. Benjamin Bell (*Edinburgh Medical Journal*, August, 1881) in typhoid gives a teaspoonful of the tincture of eucalyptus every three hours in water, with the effect of diminishing tendency to diarrhœa and also the duration of the fever.

Dr. Bartholow, in his treatise on Materia Medica and Therapeutics, declares that eucalyptus is eliminated by the skin, mucous membrane of the bronchial tubes, and by the kidneys, and that the urinary secretion is increased, and speaks of eucalyptus in terms of highest praise in chronic catarrh of the bladder—in fact, extols it above all other remedies tried by him in that ailment, and alludes to the fact that when eucalyptus is used internally the urine acquires the odor of eucalyptol. The writer may state parenthetically that he has noticed in the urine voided the peculiar odor of the essential oil of eucalyptus, when this oil has been applied to a mucous surface or has been inhaled—as much so, in fact, as when turpentine has been used in like manner.

Four cases of dropsy treated by fluid extract of eucalyptus are detailed by Dr. J. B. Leary in the "Proceedings of the Medical Society of the County of Kings" (vol. I., p. 159 et supra), which show in a most interesting manner the action of this remedial agent in stimulation of the renal functions, although possibly the digitalis given may have acted synergistically in three of the cases.

Dr. William Anderson's typical cases of albuminuria, described in the same publication (vol. IV., pp. 190, 191, and 192), seem to show that eucalyptus alone is entitled to the credit for the happy results obtained.

According to Bartholow (Materia Medica and Therapeutics), verbatim: "The most important uses of this agent" (eucalyptus) "occur in the treatment of *catarrhal affections of the bronchi and pulmonary* *mucous membrane.* It is not adapted to acute affections or to recent inflammation, but to chronic cases accompanied by free muco-purulent expectoration." Dr. Bartholow then states, again using his own words: "I am able to confirm the observation of Gubler in reference to the great utility of eucalyptus in *bronchorrhœa.* It is an interesting fact, and probably explanatory of its therapeutic action, that eucalyptus is, in part, eliminated by the bronchial mucous membranes."

Dr. S. C. Chew (Pepper's System of Medicine, vol. III.) affirms, in relation to profuse expectoration in dilation of the bronchial tubes, that "turpentine and eucalyptol have a controlling influence, and are especially beneficial if the bronchial secretion is fœtid," and may be given by the mouth in emulsion, or by inhalation or spray.

Dr. Mester (*Berlin Klin. Wochen.*) used in pharyngeal diphtheria a spray of eucalyptus, diluted by spirit and water when necessary, and considered this remedy superior to turpentine or carbolic acid.

Welcher, in a paper on the treatment of croup by tincture of eucalyptus, declared that "more recoveries would follow the use of eucalyptus than from chlorate of potassium and the other remedies in general use," and that "eucalyptus in the form of tincture is a most powerful stimulant in diphtheria."

Gimbert considered the *antiseptic* properties of eucalyptus the principal factor in the cure of intermittent fever, and Binz, Gubler, Siegen, and others testify to the like nature of the drug.

The writer was recently told by a prominent veterinarian, in active practice in this county, that wounds in the lower animals, when exposed to the open air and treated by a dressing of fluid extract of eucalyptus, were never infested by flies or other insects. In the horticultural journal, *The Garden*, 1876, a correspondent writes that a young plant of eucalyptus placed and allowed to remain in a room will cause the disappearance of mosquitoes.

Eucalyptus in its entirety and by its essential oil has been recommended as an external application, mostly on account of its sedative, or at least *mildly* stimulating and astringent antiseptic properties. Benzoin, the balsams, camphor, turpentine, and the like have been employed for the same purpose from time immemorial; but eucalyptus globulus, possessing like sanitive virtues, excels most of them in *astringency*, which is no small factor in the repair of many lesions.

The writer's experience with eucalyptus as an internal remedy has been very limited. It was used in one case of quotidian intermittent fever in a nervous female, after sulphate of quinia had been given and found to disagree, or at least the patient fancied it did. Quinia was for a time resumed, and finally the case terminated favorably under small doses of Fowler's solution.

The writer has found the essential oil given in capsule with food or just after meals, an admirable remedy in lingering colds with annoying cough and profuse expectoration.

Externally eucalyptus has been used by him in cases of rhinitis, both acute and chronic, in form of an application to the anterior nares, usually Squibb's fluid extract in full strength, and sometimes the same as an ointment in combination with vaseline. *The ointment* was found to answer best in the early stages of the *acute* disease, and the fluid extract alone further on, or at *any period*, acute or chronic, when there was profuse discharge. In two cases of ozœna or, more properly, chronic ulceration of the Schneiderian membrane with fœtid secretion, compound tincture of benzoin in combination with vaseline proved the better application. In a severe "cold in the head," the fluid extract freely applied to the nostrils, before going out in the open air, has been found effective against excessive discharge from the nose and the inconvenience attendant.

In most cases of so-called dry rhinitis, the application of the fluid extract proved soothing when first used, but in a short time the astringent action became annoying, though not the less remedial; the employment of vaseline smeared liberally over the eucalyptic layer in the onset of discomfort, allayed the feeling of dryness in a great degree. As yet, in the treatment of rhinitis, nothing has been combined with eucalyptus, with the exception of vaseline.

The treatment of a recent case of throat trouble, though not *conclusive* of the remedial power of eucalyptus, reinforced by tannic acid, may not be out of place to be related.

On Friday, February 3, 1888, J. C. S. was seen, a strong plethoric young married man, twenty-four years of age, clerk by occupation. He had taken cold after a bath following vigorous exercise in the gymnasium of the Brooklyn Y. M. C. A., on the day previous. He was found to be suffering from inflammation of both tonsils, the soft palate and pharynx, and he experienced the greatest difficulty in swallowing; pulse ninety-five full and bounding, dry hot skin; temperature not taken. He was given six drops of tincture of aconite root in three ounces of water; a tablespoonful (one drop) every half hour, and Squibb's fluid extract of eucalyptus globulus was painted over the inflamed surfaces. On being visited on Saturday morning (4th) it was found that the fever had subsided, and the pharyngeal inflammation had much lessened; he was able to swallow with a great deal less discomfort; the tonsils remaining swollen but not painful, a solution of tannic acid, ʒi to aquæ ℥viii was ordered, a portion to be used as a gargle frequently repeated during the day, shortly after one painting of the tonsils with fluid extract of eucalyptus as at first. On Monday morning (6th) when expected to be seen again, his wife stated that he had discontinued all treatment and had gone to business. Shortly afterward he removed to a north-western state. February 28th he was heard from by mail; he wrote that he had remained free from throat difficulty and was quite well.

The peculiar properties of eucalyptus globulus, antiseptic if not aceptic, and the fact that the virtues contained in its essential oil (combining the activities of both camphor and turpentine), would seem to render the fluid extract a valuable agent for local use in the cases so frequently met with in minor gynæcological practice, as leucorrhœa, erosion of the cervix, hypertrophy from subinvolution, etc., and as a topical application after the removal of mucous polypi and like growths.

The writer has used the fluid extract in such gynæcological conditions for about five years, and with general satisfaction. It many cases it has been used without the addition of other medicine agents except some of its own elements, that is to say, the essential oil, tannin, or both. The application within the cervix uteri by a laminaria tent previously coated with the fluid extract, has proved very efficient when introduced and retained for varying periods.

When combinations with the fluid extract other than those mentioned have been made, the substances resorted to have been, tincture of iodine, iodoform; iodol; fluid extract of conium; extract of belladonna; extract of pinus canadensis; and oil of camphor.

As stated in the opening, the object of this paper has been mainly introductory, and briefly to rehearse the results of some salient points in the treatment by eucalyptus globulus, as shown by a portion of its literature (and the personal experience of the writer), viz., in cases of fever, mainly intermittent; enlargement of the spleen; dropsies; acute and chronic diseases of the kidneys, urinary ducts and bladder; inflammation of the respiratory mucous membrane; special affections of the larynx and trachea, including diphtheria; the antiseptic qualities of the drug; and finally its local therapy.

PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

April 3, 1888.

DISCUSSION ON DR. VANDERVEER'S PAPER ON EUCALYPTUS.

Dr. Rushmore :—I have had so little experience with eucalyptus that I am not able to draw any conclusions. A good many years ago, when it first came into prominence, I used it in a number of cases of subacute cystitis, and I think it acted as a diaphoretic, and relieved the irritability of the bladder.

Dr. Segur :—I have used it in bronchitis, with uniformly favorable results, where I thought it indicated. I have used the fluid extract and the oil. I think the oil, when dropped on sugar, has a pleasant, warm, aromatic effect on the stomach.

Dr. Weber :—I have used it in intermittent fever, where quinine failed, and remember that in one case it was better than quinine. I did not use it steadily, and of later years I have not used it at all.

Dr. Rochester :—I have never used it at all internally, but I may add some little to the experience with it in gynæcological work. I have always used the oil, though this was merely by accident. I have used it particularly in those cases of pelvic pain where there was cellulitis, or in those other cases where there is a good deal of hyperæsthesia in the peri-uterine tissues, without any cellulitis. At one time I used to apply the oil locally in those conditions.

After I saw the announcement of Dr. Vanderveer's paper, I had a case of epistaxis in which I used it. The patient was suffering from albuminuria, and was in a bad condition. I did not want to plug the posterior nares, and after trying several remedies, I soaked a plug of cotton in the oil of eucalyptus and passed it through from the anterior to the posterior nares, and, much to my surprise, the bleeding stopped instantly. I did not like to leave it at once, so after waiting a few minutes I took a piece of cotton, on which I had dusted a little Monsel's salt, and placed it loosely in the anterior nares, and on removing it, after thirty-six hours, there was no more hæmorrhage, and the cotton was not discolored.

Dr. Ostrander :—I can recall only once in which I used it, in connection with dog grass, in a case of cystitis, and I do not recollect any special effect from it.

Dr. Sullivan :—I have not had sufficient experience with it to draw any conclusions as yet. I think favorably of it as far as I have used it.

Dr. Rochester :—There is another point in regard to this drug which is of interest, and which I forgot to mention. It acts very much like collodion; it forms a skin over the surface at once, and can be used sometimes in place of collodion.

Dr. Bates:—I have used it in cystitis to a very limited extent. I recollect one case where it was serviceable, but of later years have not thought it very useful.

Dr. Bierwirth:—I would like to bear testimony to its very disagreeable taste. I was obliged some time ago to try it, and I took the oil in capsules, in 20 minim doses. I persisted for some weeks, and whenever I hear of the oil of eucalyptus it nauseates me. Its odor and taste are so exceedingly nauseating. It did not seem to relieve my malarial state.

Dr. Bates:—I think that effect will often be found when it is given in moderately large doses. Where a few drops are given on sugar it is acceptable, but where 20 or 30 minims are given it irritates the stomach.

Dr. Segur:—The remark which has been made about its having anodyne qualities brings to my mind a case of bronchitis where I used it. It was a neurotic individual, who has bronchitis every winter, and it acted with marked good effect. It occurred to me possibly there might be some nervous influence subserved, as has been already alluded to.

Dr. Paine:—I have been in the habit of using this drug for some years. I have used it in cystitis, and think, in chronic cases, I did obtain some benefit. The effect upon the stomach has always been one to be dreaded, and I have found that it had to be administered with great care. I have always used the eucalyptol in capsules when satisfied of getting a good preparation; and by giving it on a full stomach I have sometimes been able to avoid the irritation to the stomach. During the past month I have been using it quite freely in hospital practice in order to see the results. Have used several pound bottles of the fluid extract, but I do not know that I have anything of value to say in regard to it. I am satisfied it does well in chronic bronchitis by diminishing the accumulation of mucus. The patients say it tightens the cough and they do not think it benefits them, but it certainly does decrease the mucus. I have never used it in malaria, but in cystitis and bronchitis I think it useful in many cases.

The Chair:—The external uses have not been mentioned. There has been a considerable amount of published experience in regard to its use in dressings, etc. As an oxidizable oil it has the same power that turpentine has of ozonizing the air. The oil, eucalyptol, is used largely in Australia and Tasmania in the place of turpentine by the painters. It has about the same effect on the atmosphere of a room painted with it that turpentine would have, and by its oxidizability it affords the same smooth surface that turpentine does. From these circumstances it might prove very useful in antiseptic dressings, as appears to have been shown.

Dr. Sullivan:—If anybody has any experience in administering it in a way that patients will not object to so much, it would be useful to give it.

The Chair:—Both the oil and fluid extract are easily given in emulsion, and this upon stomachs not unduly sensitive is generally acceptable. When used in affections of the air passages, the effects of inhaling the vapor is rather important, and then it may be dropped upon sugar to be slowly dissolved in the mouth, or be made into troches just as cubeb is, and used in the same way, with respiration through the mouth during the use.

In continuation of the general subject of fever, from the last two meetings the remainder of the evening was occupied by a consideration of the diagnosis of typhoid fever.

Dr. Segur:—A case occurs to my mind that I called typhoid fever —in fact many such cases I have called typhoid fever—but this comes to my mind at present. A case which I called typhoid fever in which there were no typhoid spots—and in many cases there are none; no typhoid tongue—that is very common—and in which there was not a typical course of the temperature. I believe that the teaching of years ago as to the course of the temperature has failed us, or else our fevers are so modified in their access and early progress by various morbid influences that the early lower temperature and the gradual, regular increase are often not seen. But to return to this case: There was no gurgling or diarrhœa, no rose spots, no typhoid fever tongue, and no characteristic temperature. There was evidence that the innervation and action of the intestines were impaired, and there was in the attitude, the facial expression, the suggestion—the shadow—of the typhoid. After fourteen days of a mild febrile movement without intermission, defervescence was established. There was no evidence of ulceration of Peyer's glands. I should say that I have seen enough to satisfy myself of the diagnosis of typhoid fever in many cases where there was not. If we were to make evidence of intestinal lesion indispensable, I think we should often fail to diagnosticate typhoid fever where I would believe it existed.

The Chair: Suppose we take the typical diagnostic group as given by Louis: the intestinal tenderness, the diarrhœa, the bronchitis, the epistaxis, and the rose spots. How often are these, or the majority of them, absent in cases of typhoid fever.

Dr. N. L. Bates, U. S. N.:—There are fevers of a continued type, which are not malarial and which, for want of a better name, I have for ten years or more called typhoid fever, although diarrhœa, epistaxis, gurgling and spots were wanting, the thermometer tracings puzzling, and the typhoid condition as shown by pulse, tongue and general condition of patient, mild, comfortable, and never alarming. I recall three light cases of continued fever in officers of the same ship in Japan, convalescent in two weeks, all much alike, comfortably, not dangerously sick, and all diagnosed as typhoid fever. Some years later, in Washington, in a limited area, there were twelve cases at the same time. Some of these I saw and in others I traced the history. None were dangerously ill. Some were entirely well and others not quite well at the end of the third week.' These cases occurred on high ground where there was a lack of water in the bath rooms, and I think that the uncertain water supply was an essential factor of causation.

In October, of the same year, in another part of the city, I had three cases of a similar character, in a family which had just returned to the city, to a new house, around which a great deal of digging had been going on. In these cases I did not give a diagnosis of typhoid fever. In the first case I said, " Your boy has fever and will probably be sick ten days or two weeks." The prognosis was verified and the same experience repeated in the other cases, although in one, from occasional causes, convalesence was somewhat longer.

What are these fevers which breed true to such an extent that a physician may safely make a prognosis of convalescence in two to three weeks, in cases occurring one after another? I am disposed to regard them as cases of specific or poison fever in which the germs of true typhoid fever are absent. May there not be in true typhoid fever two or more essentials, one the germ, and others connected with the individual, the soil, drainage, water supply, ventilation, etc.? May we not attribute such fevers to house, ground, ship or camp poison without presupposing an omnipresent typhoid germ? For the purpose of discussion I think we may.

Dr. Wieber, from his own experience, endorses the opinion expressed, " that the symptoms of fevers in this country are somewhat mixed;" and is inclined to think that the so-called typho-malarial fever is typhoid fever, even when all the symptoms of the latter are not apparent. The uncertain character of some fevers is a source of embarassment to the attending physician, and places him sometimes in an unpleasant position when an accurate diagnosis is requested by the patient's friends or the health authorities, who claim that typhoid fever is contagious.

Dr. Segur:—In thinking the matter over, I find, in making a diagnosis, I am guided by this consideration: So far as I know, we have intermittent fever, we have remittent fever, typhoid and typhus, and we have ephemeral fever. I do not think we have any difficulty about ephemeral; it lasts not more than a week, and often less. We have no difficulty about intermittent fever. I think, from my experience with remittent fever, that we never have any difficulty in recognizing that. Of course, a well-marked typhoid presents no difficulty. Typhus presents no difficulties. The questionable cases are differentiated from the ephemeral by the fact that the former last two weeks or more. They do not run three or four weeks, but generally stop at two weeks. If of two or three, or four weeks or more duration, is there any serious doubt of the diagnosis between typhoid and remittent fevers? On that point I would like to know the experience of the Association. I have never seen any tendency in remittent fever to stop at the end of two weeks, and I have never seen remittent fever pursue the mild course with no unfavorable symptoms that these two-week cases of typhoid do. I should say that the progress of remittent is so well marked that one watching a case has no doubt of the diagnosis.

Dr. McCollom :—The subject of the diagnosis of typhoid fever is a very interesting one, and there are many present whose experiences and opinions would be of interest to the Association.

Those of us who have long practiced medicine in the city, have not infrequently been perplexed to answer the intelligent layman's question : " What ails the patient ?" We reply : " A continued fever." This does not satisfy, and another question follows : " Is it typhoid or malarial fever ?" It is often difficult, and sometimes impossible, in the early stage, to answer clearly and correctly.

We are not likely to confound typhoid with any other than malarial fever. Dr. Segur's remarks regarding the diagnostic differences are to the point, and I have little to add.

I do not believe much in typho-malarial fever. Dr. Wood brought this term into use during the late war, because physicians were in doubt whether the camp fevers were true typhoid or not. As time passed, and the lesions were more carefully studied post mortem, little doubt remained that camp fever was typhoid fever, though sometimes masked by malarial influence.

We may safely say, when we are in doubt, if we have a continued fever, running on from week to week, with increased pyrexia once, and often twice, in twenty-four hours, not influenced by anti-malarial remedies, that it is typhoid fever, though the pathognomonic symptoms, according to Louis, are mostly absent.

When doubtful cases have been carefully studied by those best able to diagnosticate the disease, they have almost always been pronounced typhoid, and not malarial, fever.

In my early practice in New England, in a region of the country where, in those days, malaria was never known, we saw a great deal of typical typhoid fever, and I thought it an easy matter to make the diagnosis in such cases.

During my twenty years in the city, I have often been puzzled during the first week to make out the case ; but almost all such cases have proved to be typhoid fever, and it is a safe practice to pronounce them such when in doubt.

ADDRESS DELIVERED BEFORE THE NEW YORK COUNTY MEDICAL ASSOCIATION, February 20, 1888.

By the retiring President, JOHN SHRADY, M. D.

In obedience to a custom, which in the youth of this Association, can scarcely be called time-honored, it becomes my duty to suffer a willing martyrdom. I must needs review with you the past, which indeed has been most pleasant, and indulge with you the hope that the future may be still more profitable. May we not all say that the year has added somewhat to our mental stock, and directed our thoughts into newer channels? May the Pierian spring not have gushed in vain, but have slaked the thirst of the poor traveller after science!

We have passed a year not very notable, perhaps, for brilliant discovery—nay, it has shattered some idols—but much has been done by way of corroboration of the valuable, and much must still be held *sub judice.* The world has begun to tug at the sleeve and look the teacher in the face—and is it too much to say that physicians were the first questioners, or that they were Baconians long before Bacon? The Ninth International Medical Congress during the past year has receded into history. Its lesson was the usual one, that the voice of the multitude may have both power and volume. It also taught that there can be but few leaders capable of directing intelligent thinkers by the thousand, and that no one man, nor one body of men, can lay claim to indispensability. Those who represented this State in that memorable September Assembly, deserve the thanks of their brethren for their patriotism and their loyalty. That the Congress was a success is a matter of much gratulation—that it did most excellent work is a conceded fact; and that it ignored the existence of any such phantasm as a possible medical centre, can not but redound to the advantage of science. As usual there were many surprises, which brought many new names to the front, and so some of the old-time favorites lost their opportunity. "So let it be with Cæsar." Now let peace prevail. May the victors be generous and the vanquished accept the inevitable in good form.

We have come to that period of our existence which, as an association, ought to demonstrate the right of life. We have worked together in harmony, having as our goal the common good of the profession. We have striven to set aside the petty ambitions of the individual; we have had our debates conducted in all courtesy; we have arrogated to ourselves no claims of leadership, and we have courted that spirit of tolerance, which should permeate all scientific bodies, and above all we have trampled upon the privileges of none. What has been done has been done openly, without the intervention of that bane of all associations, medical politics. Papers have been read, and none can say with truth, that they have not been profitable additions to our knowledge. Truly our founders have constructed with wisdom, and not a single associate can say that the plan of organization has been barren of results!

New officers will now take the helm, with the best wishes of their predecessors, who have no other desire than the prosperity of the organization. The old will meet them with the greeting of a most hearty encouragement. All of us who are present to-night tender the hearty salutation of a "God speed," and may I not say that they will manifest their devotion by contributions to the general work. Thus far we have not been embarrassed by wordy theses as drowsy as a Patent Office Report—on the contrary the papers have been listened to with attention, and but few have missed the compliment of publication. Some of the writers rank highest among our honored teachers, and some have shown that their maiden pens will do meritorious work in the future. All have done their part, even to those who have been patient listeners, and who have modestly cherished the mistaken thought that their contribution to the general fund would be of little consequence. "They also serve, who stand and wait."

One of the prime objects of this association is the bringing out of latent talent, for its founders believed that there was much merit in modesty and much hidden treasure in the independent thought of the general practitioner. These founders, sceptics as regards the omniscience of the few, desired to impress their brethren with the idea that the mere dogmatist should be put to the crucial test of proving his assertions. They protested against the Government of the Caucus and advocated the freedom of debate, their creed being that the wisdom of the many was greater than the wisdom of the few. They therefore modeled the parent association according to the plan of the general government of these United States, and wisely brought it in affiliation with the national body of physicians.

With the belief that the profession is an autonomy, capable of the most advanced self-government, they set their faces against the possibility of this or any other body in allegiance, degenerating into a Society for the Prevention of Cruelty to Doctors. Hence the acrimony of debate has gone out with the bickerings of the politician and the vaporings of the pseudo-reformer. Much time has therefore been left for real, honest work and the consequent mental improvement. That there has been even a surplus of this work, it would be a platitude to aver, but that this has been a fact the length of our meeting will testify. For this there seems to be no remedy, nor indeed is there any specially desirable, as sometime in the future a medical journal may meet all the contingent demands for the zeal of our associates. At all events there is no reason why any contribution of value need be wasted, or that it should require the imprimatur of a great name, as a pre-requisite for acceptance.

As an association we claim to represent that very large class who pursue their vocation, not always with the much desired humility, but rather in spite of the ready sneer and the patronizing sufferance. This class, however, endure the hardships and are not disposed to forego the rewards due their toil; they demand the freedom of knowledge, and the right of criticism; they exercise the prerogative of qualifying the statements of enthusiasts, and pass upon the merits of alleged discoveries. They receive or reject with impartiality, and occupy the judicial plane, which should be the highest of all. From their point of vantage, they have a larger scope of vision, and therefore are more competent to deal with general principles—they handle the telescope rather than the microscope, and therefore judge more wisely because they deal with more palpable results. In the hot contests of life, like the Israelites in rebuilding their temple, they may be compelled to hold the trowel in one hand and the sword in the other. They with their stealthy charities and unrecompensed work may not be cheap statues in the public highways, but there is about them the grime of battle and the air of veterans who have earned the right of rebuke. They justly hold that when a new law is discovered, it is capable of immediate application. While to the specialist, him of the better type and guiltless of a noisy rhetoric, they are ready to accord the meed of praise, they cannot pander to his egotism or submit to his assumption of infallibility.

The Great Reaper, who has been busy in our midst, has removed none more worthy than Alonzo Clark, whose fame requires neither analysis nor explanation. Conspicuous among his peers he bore his honors meekly—just to all, supercilious to none—safe almost to plodding—free from dogmatism, an honest toiler with no meretricious aids; he gave what was best of his loyal nature to science and to truth. As stalwart of soul as of body, he moved among his brethren with unquestioned majesty, as honored as he was loved, and died slowly and at last unconsciously—"died from the top" as did his favorite, Dean Swift, to whom he often alluded with pathos in his graphic lectures upon cerebral lesions. Truly he lived not in vain, for he magnified his office by the breadth of his views and his sterling integrity. He conscientiously gave to the profession that lore, which he had gained by patient weighing of evidence and sifting of authority. Avowing that there was no courtesy in science, he disclaimed all hero-worship and earned along with the best of colleagues the laurels of the ideal physician. As Paget exclaimed of a deceased co-worker, "Would that he might have passed more of his immortality upon earth." Beside him how insignificant becomes the figure of him who bends the best energies of his soul toward the attainment of a notoriety as futile as it is unsatisfactory. Clark went not out to meet the world; it came to him in its spirit of occasional justice with its honors and its plaudits. It found him a man, it left him a hero, and in the fullness of time it bade him a tender good night on account of the graces of his noble soul, and placed upon his bier the emblems of mourning because his fame was untarnished by selfish work.

Varick too has died—Varick the unimpeachable, the honest, and the true—a man honored by his Fellows, and to whom too much of eulogy cannot be given. Among the others who have gone to the shadowy land are Jared Linsley, long a familiar figure from the earlier days of Old New York down almost to the present—courtly, urbane and magnanimous.

Gavon Campbell, who proved his usefulness in two professions, the one spiritual, the other corporeal. And the youngest of them all, whose promising future was nipped in the bud, T. J. I. Ford, the son of a noble sire, who long graced his position as Medical Superintendent of the greatest of our public institutions.

And now personally, Fellows of this Association, I wish to thank you for the exceedingly high honor of being the successor of a Detmold and a Leale. So far as private cares and the discharge of not always agreeable duties have allowed, I have striven to do my utmost for the advancement of our common good. My judgment may not always have been the best, but my aims have been most sincere. For your kindly forbearance and willing support I tender thanks and appreciation. To the incoming Administration I yield my fealty and ask for it the gracious treatment of old. But why need I ask for what you are ready to volunteer to MacGregor and Wood who have done such yeoman service in the past, and whom I might praise with more fervor did I not fear their censure in private.

Our thanks are also due to Drs. P. Brynberg Porter and Glover C. Arnold, who have toiled with us ably, nobly, and conspicuously. They have been "instant in season and out of season." We would that their reward might be equal to our desires, for they lent to us willing hands when most they were needed. Their accuracy and scholarly tastes will long remain traditions with the Association. We regret with a shade of selfishness that our duties have brought a pressure to our great disadvantage.

And now if I have disappointed your expectations on the present or any other occasion, may I not direct your eyes to a fresher morning, and with the Scottish clans of yore contending for precedence at a feast, may I not join in their final verdict, "'Where sits MacGregor, there is the head of the table.'"

ADDRESS DELIVERED BEFORE THE NEW YORK COUNTY MEDICAL ASSOCIATION, February 20, 1885.

By the President-Elect, JAMES R. MACGREGOR, M.D.

The subject theme for a medical address comprising anything new is not easy to choose. In whatever direction over the extensive domain of medicine we may look we will find travellers who have gone before, and who have, as it were, pre-empted any claim on our part to originality. There is hardly any topic connected with it that has not been considered in every conceivable light. We have listened to learned dissertations on the history of medicine; the speculations as to when and where it had its origin—the individual zeal of the narrator often leading him to go back to Esculapius for a fair start; its practice as an art gradually appearing in the traditions of the earlier and ruder nations, and confined to the fulfillment of a few indications, such as purging, sweating, and the relief of pain and hæmorrhage. Depositaries of literature have been industriously searched for information concerning the life and writings of noted personages from antiquity down, to more clearly enunciate their doctrines, and appreciate what they have accomplished. Elaborate studies into the ethics of medicine with inquiries concerning its relations with social development, and how far it has as an art kept pace with the progress of the age in the other arts, have in this manner been placed before us. The times, character, and writings of Hippocrates have been given us in the same way; and with a classic grace that has stamped the hearts of those who were its favored recipients, with indelible memories of the author and the occasion.

The rise, progress, and decline of the school of Salernum, has recently been the subject of a highly creditable effort to place before us a historical sketch of the Mecca of mediæval medicine, in which we learn, among other items of interesting information, the fact, that the practice of medicine on the part of females is not of modern origin. We hear of one Trotula, as well as others who were luminaries in those times, and who left names of renown, not only as skilful practitioners, but likewise writings attesting their fame.

Poetry has been brought into requisition, to cast its flashing splendors over the more dull and sombre prose. Jokes about infinitesimals, the wet sheets of Northampton and Brattleboro, and our amiable medical brethren of the gentler sex, have all been cracked.

The exposition of every principle that could be made available for giving higher conceptions of the character and dignity of our profession, or lead to a more accurate appreciation of duty—appeals to that sense of moral grandeur which invokes benign sentiments of our nature, have all been utilized. The magazine is exhausted.

Unless it be by some youthful aspirant for fame, who has yet to win his way to distinction, and who grows restless as the prancing steed, champing at the bit from the restraint of inaction—eager to find opportunity for the display of his talents in the bright sunshine of a lofty altitude, where all may gaze and admire—duties, such as that with which I am honored to-night, are not usually coveted; indeed, they are sometimes ingeniously avoided.

In the dilemma that I thus find myself, which if possible is worse than that of the Israelites in Egypt—to deliver the tale of brick, and get the straw where best I can—yet, not desiring to avoid any duty that fairly belongs to me, I have ventured to offer for your consideration, a few scattered reflections of a general nature, concerning the medical profession as a whole, and ourselves as individual members.

The conditions upon which social order is founded, are of a very positive nature, and although presenting outwardly no semblance of system or order, yet, nevertheless they are subject to the operation of definite laws. If we fail to recognize the force of these, and the direction in which they exert their influence, it is because they are of that quiet nature in their operations, and hold so indirect a connection with the affairs of life, that they do not obtrude themselves upon our notice, and consequently are discerned only after special inquiry.

In the most primitive condition of man, such as is exemplified in barbarous and savage tribes, he is prompted to do little more than to fulfil the common instincts which impel him to attend to his immediate necessities, such as relief from hunger and thirst; shelter from the inclemencies of the weather, and protection from the depredations of his enemies.

A very little consideration only, is necessary to understand, that even for these needs, the combination of individuals into bands or communities is necessary. One of the first lessons that we learn in contemplating this problem, is, that there is no such thing as absolute individual independence. We are so situated as to be unable to carry on the ordinary operations of life, even in the simplest manner, without assistance from others. As civilization advances, we find this assistance assuming definite shapes, and gradually developing into established customs, wherein a certain portion of individuals assume the exclusive duty of furnishing a single article or product for the use of the others. By the workings of this arrangement, a better article is produced, at a less expenditure of effort, and consequently an economy of cost. Were the order of things otherwise, it is easy to imagine what would be the result, if each one for himself should endeavor to be the producer and manufacturer of everything required in his daily wants. In the progress of development, it is found that these classes differ from each other in the rank or grade which they hold; partly, from the degree in which the product stands in importance—partly, from the amount of practice or pupilage required to render the exertions adequate to the best results, and partly, from the success or fortune which places one above another, in the conditions requiring him to make exertions of any kind.

As society becomes organized, the separate pursuits are found to be better prosecuted by restricting the limits of operations; hence arise the subdivisions of labor. With the increase of the facilities for production the tendency of man is to add to the number of his comforts. New wants spring up, and he is constantly seeking for the means of gratifying them. Trade and commerce enter into the combination. It becomes necessary for the better operation of all these processes that certain regulations should be adopted governing their action. There must be general and special rules promulgated for the welfare of the whole, the framing of which is to be entrusted to those who, by training and experience become qualified for the purpose. Provision for all contingencies of life which are found likely to arise is required, which leads to the establishment of additional pursuits. Finally, the inter-dependence and co-relation of these many elements, forms a vast combination, which in its most advanced condition, presents the shape of fully organized society. Each department in this system, has its position and its bearings—its importance and its duties.

The exact status which the medical profession holds in this complicated arrangement, is in some respects peculiar. The interests with which it deals are obviously second to none in importance. The most natural instinct of man is to preserve his health, and much of his time and attention in one way or another, is expended in serving this object; and notwithstanding his depraved inclinations, and tendency to excesses, it lies as a substratum in his moral nature, even though it may be dormant.

The appreciations of how this is to be done, and what are the best means to employ, present all manner of differences. The grade of intelligence manifested by the individual in those operations of life to which he is accustomed, and the station in society which he occupies, does not always correspond with that exhibited in seeking relief from his ills; and the proportions of this relation show all varieties in degree.

There is in the human organization—call it duality of the mind, or what you will—that with reference to some subjects of consideration, it is able to apply a high order and quality of intellectual power, resulting in conclusions which are creditable to the inquirer for his display of the faculties of scrutiny, analysis and logical induction; but when applied to another subject, it does not have the same grasp or acuteness of perception, and renders its possessor liable to fall into errors, and adopt vagaries and conceits as the offspring of profound truths.

With many, the vague and popular notions handed down from antiquity still hold their sway, with their admixture of mystery, superstition and deceit. The forms become somewhat modified under the progress of education and advance generally, but they still retain the root which belonged to their original type. It is only a change of dress suited to the fashion of the day. Higher in the scale of enlightenment comes he, who does endeavor to mould his actions, and discern his best interests by the judicious exercise of the light that is in him; but the case is too frequent, when he, whose experience and judgment would enable him to successfully conduct a difficult mercantile project, or another who could apply the highest order of reasoning to a profound principle of law, could not hold out against the assaults of promise, plausibility and pretense in seeking medical resources.

There are others again, and they do not belong to any particular station in life, nor do they always have the advantages of education, or those associations which tend to enlarge the ideas, who from an innate judiciousness, which they are able to exercise in all directions, in medicine as in other matters, think that the wisest course is to follow the dictates of common sense; and they therefore apply to those who by education, training and experience, are supposed to be qualified to attend to their medical needs. Were it not for these, who afford him moral support and encouragement, the path of the physician would be gloomy indeed.

Although our relations with the community are very close, and affect those matters which lead all others in importance, so far as this life is concerned, yet it is in a single line of duty; our points of contact with the world are few. We are to a certain extent a segregated class; and virtually constitute a caste. Most of the other higher pursuits in life bring their members more or less in the range of public notice; and the subjects which they agitate mingle to a certain extent, with the topics of daily interest. Members of the legal profession exercise many other functions besides that of practicing at the bar. They constitute our judges. They frame our laws. They become our public statesmen and foreign representatives. All the operations of trade, mercantile business, real estate, civil contracts, the making of wills, etc., fall upon them to supervise and regulate. In fact, there are very few of the ordinary transactions in life, in which their relations to the law does not enter into consideration. The divine, besides fulfilling the ministrations of his office, as spiritual guide and expounder of theology—the most of these duties being performed in the presence of a mixed audience, becomes to a great extent a public teacher of morality and ethics. The journalist wields a powerful influence over the minds of the community; and with the assistance of the telegraph, is fast displacing the statesman orator, in moulding the political sentiments of the people. The knowledge of all that transpires, and the drift of public opinion is, through his hands, disseminated throughout the land.

Outside of our own members, there is seldom an occasion for the physician to address a public audience on any subject connected with medicine; and when this is the case, his discourse requires to be modified and diluted to suit the technical status of his listeners. He is therefore obliged to confine himself to the elaboration of a few general principles; or if he descends to particulars he must give them in a way that it amounts to no more than ministering to a popular curiosity. Nothing of his writings usually reaches the public eye, except communications respecting the illness of some person of distinction.

A certain portion of the community, as individuals, certainly do manifest a desire to know something of medicine; and those with this inclination whose temperaments are by nature tinctured with the element of vanity, occasionally pique themselves upon their acquisitions, as being better than their peers. We meet with such quite often in our visitations; and when this trait is found, it is generally quite positive in its character. It moreover, sometimes occasions rather unpleasant experiences to ourselves. With a person of this description, for the physician to acquit himself judiciously, serving the best interests of the patient, and at the same time having the difficulties of a querulous subject to deal with, is often a problem not easy of solution. He is expected to explain satisfactorily the conditions and development of disease; its relations and complications; the cause and import of every particular symptom, and why it should be present; the principles of treatment, and the particular effect of the remedies which may be prescribed; and if a written prescription is given, it is unfolded and scrutinized with an air—not much different from that of a lawyer reading the adverse decision of a justice. He is also expected to enumerate every possible contingency to which the patient may be liable, and predict any change that may occur in the course of an existing malady that he may be treating. He is catechised in his opinions so that his position becomes very little better than that of a witness undergoing a cross-examination. His statements are received with a silence which indicate doubt, if not incredulity; and he takes his departure in no satisfied mood, as to what is due to his character or position. Even among those who do not present this extreme of peculiarity, the experience of the physician is not always to his liking. The community has learned to regard that it is incumbent upon him, as a part of his duty, to assume the office of a general teacher of medicine in his intercourse with the sick. Discrepancies of opinion are presented for him to reconcile, some of which opinions may be merely popular notions floating in the minds of lay people; and the manner in which they are now and then advanced, indicate that they are regarded as the standard to which all others—not excepting those sanctioned by competent medical authority—are to be adjusted.

With some an accurate copy of all the prescriptions he may write, is recorded in a book kept specially for the purpose. This practice is not always adopted from motives of economy. In fact, it does not admit of explanation from the operation of any single principle. It arises also in part from the dictates of prudence; to be in a condition ready to meet—should they again arise—the occasions for which they were originally prescribed; and it likewise exists, we apprehend, as a part of that system of order and general good management which is found in some well regulated households.

That the avenues to knowledge are open for all, goes without saying; but a successful search for the choicest fruits, is only accomplished upon certain conditions. It involves an intensity of interest and fixedness of purpose, which falls little short of a devotion; and it calls for an amount of industry, such as only few can practice, and a degree of self-denial, that only few can exercise. He who cannot furnish these qualifications, will reap as his harvest little but the results of a blasted or spurious germination. There is a vast difference between a knowledge that is ample, well ordered, and in a condition ready to be applied with effect to a definite, useful purpose, and that which is the offspring of a few smattering, disconnected notions; of fancy and of false intuition.

Society has in all ages, recognized practically, the truth of this principle, by the established custom prevailing with every class that followed any special study or pursuit, to impart a full knowledge of its nature, only to the initiated. In this way has a line of study sometimes become so prominent, as to stamp the character of a nation. The science of astronomy was the the distinguishing feature of the ancient Chaldeans; and it was by this attribute, that after they ceased to be a nation, they preserved their identity as a people; and even when this was merged into that of the succeeding nations, the name remains; and it is in recognition of the successful cultivation of their favorite science, that the professors of astronomical and astrological learning, under the Roman empire, received from the poets, and historians of the time, the appellation of "Chaldeans."

The doctrines of esoteric Buddhism have long remained a profound secret to all who were not within the pale of their "inner temple;" and it is only at the present day that they are beginning to reach the outside world, through the revelations of those, who for that special purpose have embraced their faith. The history of medicine, philosophy, theology, science and the arts, shows that, if the acquisition is to be of value, it is to be gained by those only who become its disciples. The optician who constructs the lens which furnishes the most delicate revelations in histology, reserves to himself the knowledge of its formulas. The man who brews your beer, imparts nothing of his processes. He who manufactures the violin with exquisite tone, reveals none of the principles of its architecture. Even in the ordinary mechanical arts and trades, the requisite skill is to be attained only by a period of pupilage ; and if a mechanical device is invented, the principles upon which it is formed cannot be concealed—the inventor seeks to have its benefits accrue to his own advantage by immediately securing a patent. Burns was unquestionably sound in his ethics, when he wrote in the epistle of advice to a young friend :

> " Ay free off-han' your story tell,
> When wi' a bosom cronie ;
> But still keep something to yoursel',
> Ye scarcely tell to onie."

It has been charged upon the church of Rome, that, with a view to keep from its converts all knowledge, except such as it thought judicious, and subservient to the purpose of holding them in strong subjection, it couches its ritual and literature in a language foreign to that spoken by any of its members. We think, that upon due consideration, this charge will not be sustained. The language employed is not a secret dialect. It is the one almost universally acquired by all classical students ; it forms part of the curriculum of the universities and academies of all nations, and among all denominations of religion, and with the church in question, it is taught in all their primary parochial schools. We are of the opinion that, with regard to the ritual, the use of Latin is, partly, to preserve its classic form and thereby add to its solemnity and impressiveness ; and partly, from the probability that the church authorities entertain the conviction that spiritual devotion, like all other sentiments of an intense nature,— transcends the bounds of language. We hear of no one complaining that Italian or German opera is not performed in English; and the foreign histrionic artists who appear before us, draw as large audiences, and make as profound impressions upon their sensibilities as those who speak in our native tongue. As to the literature in which its doctrines and official communications are promulgated, we believe that there is no special object in following this practice, further than continuing what had been the prevailing custom for a long time among all enlightened nations ; namely, to write all treatises of whatever nature in the same language. This has been markedly the case in the history of medicine ; and even at the present day, in most, if not all of the medical colleges of the world, Latin is accepted as one of the languages in which graduating theses may be written ; and in the new departure which has been taken by some of the medical colleges in our own land, and which we think is destined to become general—that of raising the standard of qualifications for admission, and by a preliminary examination of the applicant—Latin is recommended as one of the studies to gain the required proficiency. We follow the same custom in writing our prescriptions, even those of us whose acquirements will enable them to do no better than to effect it in that shape which is termed "hog Latin." It has been the classical exponent of science and philosophy, and although its heritage may have weakened in descent, it has not lost its power.

The arduous and responsible duties of a medical man in active practice, call for some diversion from their wearing effects. There must be some resource where the mind can occasionally be lifted from the weight which is constantly imposed upon it, and it does not necessarily follow that this relief is to be sought for solely in light and frivolous entertainment. There are other channels, which in part, at least, afford a means of obtaining the required relief; even the pursuit of some study of a scientific or other character will often fulfill the demands of nature in this need.

I do not claim that the practice of medicine is exceptional in presenting more troubles and vexations than are experienced in other business pursuits. It will, I think, be conceded that there is no other in which the emotional faculties are more frequently exercised or strained to a higher degree.

The amount of permanent damage to the nervous system that would accrue from the application of the mental faculties over a considerable period of time, provided the capacity was proportioned to the magnitude of the daily effort required, and the application not begun at too early an age, would probably be small, if it was purely of an intellectual character, as is instanced by the longevity and retention of the mental powers of those who devote their attention to philosophy, metaphysics, and the sciences generally; the most of whom, barring the ordinary contingencies of life, live to advanced age; whose temperaments, moreover, are of that quiet kind that does not impel them to seek an exciting recreation, and whose habits of life are for the most part simple.

On the other hand, those whose pursuits lead them into the excessive employment of the emotional and imaginative powers, unless subjected to the domination of a well-regulated discipline by which they are kept within a judicious limit, are inclined either to experience a marked deterioration of their faculties, or die comparatively early. There is hardly a more melancholy illustration of this mental exhaustion than that in the case of the author of the Waverly Novels, whose tales of romance have delighted the English-speaking world; who, when in the latter period of his life, from adverse pecuniary circumstances, was obliged to exert himself beyond nature's bounds. His romances lost their charm, and his writings at that time showed a marked inferiority to those of his former days. Genius too often pays a penalty for its birthright in an infirmity or an early death. Poets and musical composers of renown are, as a rule, not a long-lived class.

The case of one seriously ill, with a disease of doubtful issue, as its fluctuating conditions at one time seem promising, and at another discouraging, these changes succeeding each other in frequent oscillations, must necessarily exercise the mind of the physician in its continued succession of emotions. There is, also, to him who is endowed with a sensibility and conscientiousness, sometimes a feeling of uncertainty as to how far his opinions and ministrations are satisfactory to the patient or his family. If the case is one that in its nature the progress is slow, the ordinary mind is apt to conjecture that either not enough is being done, or that the treatment is not of the most appropriate kind. With the fluctuations which are common to most diseases, there is likely to be a corresponding alteration in the moral tone of the invalid, and, where he is not gifted with the faculty of adapting himself to the difficulties of the situation, it may drift into a morbid channel; and, finding he is not making the progress that he thinks he ought to, becomes, to a certain extent, demoralized and in a state ready to be influenced by the host of suggestions from interested friends. It is but a step to the conclusion that the right man is not yet attained, and the attendant is obliged to give place to another, who, perhaps, meets with a similar experience. Too often a good physician is thus displaced, and he carries with him a load of obloquy which does not rightly belong to him, but which he is obliged to bear in silence, feeling that the true dignity which becomes him does not permit him, even if he had the opportunity, to say anything in defence of his judgment. To one such, the conviction that he had honestly performed his duty, might be some consolation, and he might be content to trust in silence and the correcting effects of time as his most eloquent advocates; but the arrow is in his heart, and, although the wound may heal, the scar ever remains. It may be here said, parenthetically, that it is no argument against the professional sagacity or skill of a physician, if he should not be able, in every instance, to adapt himself to the changing sentiments of whimsical people—those whose impulses accord largely with their sensations.

It would hardly be appropriate to this occasion to enter into any extended account of the situations which call forth the physician's anxieties; we know well what they are, and we all feel their weight; these anxieties vary, of course, with the exigencies of the case, but it may be safely asserted that there is no single professional act of which they constitute no part.

It is not intended, by these observations, to indicate that the aspect of our professional existence is to be viewed through the murky atmosphere of pessimism. The illustrations used, comprise some of the incidents in our career which do not commonly find expression, and they serve, as well as any other, to demonstrate the power of that emotional influence we are considering. There are other and brighter pictures, which shed the radiance of a genial sunshine over our pathway. Who can measure the depth of a gratitude that wells up with gushing tide from a heart which had been tossed with distressing anxieties, and weighed down to the depths of despair at the prospect of parting from the fond husband, or the devoted wife, or the cherished little one—when the weight is lifted, and the cheering prospect of recovery diffuses its beneficent halo throughout the household! This tribute, which, in comparison of sentiment, dwarfs all others into pigmy proportions, it is our privilege to receive. Who cannot recall the numberless occasions where speech and gesture gave evidence of confidence, reliance, conviction to our views, and implicit obedience to our instructions? How often have we been regarded as the faithful friend and trusty counselor on whom to rely in trouble, in all that relates to our calling?

The lights and shadows of existence fall upon us as upon the rest of mankind; and the cup of sadness, which we cannot put aside, is, in its due course, presented to our lips. The hand of time makes no exceptions to our vocation, and on frequent occasions we are called upon to note that some one of prominence, some one that we revere, in obedience to the behests of nature, has his light extinguished, and that he carries down to the grave all those qualities which made him of consequence among the fraternity. The tears have hardly dried, the sighs have hardly subsided, since we had occasion to mourn the departure of our beloved Flint. Within a few short weeks the remorseless hand of death has again clutched within our precincts, and all that was mortal of him who was left in solitary majesty among us, closed its career. With him has passed away the last of those who were connected with my own introduction into medicine—those whose precepts were received with confidence as a pupil, and whose attainments it was a delight in after life to honor. Without detraction from the merits of many excellent men still with us, it may be said that in the peculiar combination of elements that made up his professional and personal character he has left no successor.

It is perhaps not out of place to say a word concerning the claims of medical societies upon its members; and in view of what has been alluded to as to the necessity of the physician to have some diversion of his attention from the daily conflict with disease, this has a partial application. We might say that here is the home circle of our professional brotherhood; here you can meet with those who have pursuits and sympathies in common. Whether you are distinguished or not, if you bring those attributes which belong to the worthy physician, you have the stamp of nobility, and the hand of fellowship is extended equally to you. Your efforts here will tend to round out and complete the professional character to its proper symmetrical proportions. We would say to the young man that he ought not, from motives of diffidence or pride, refrain from contributing to our deliberations. Every careful and conscientious undertaking will here receive respectful consideration; it may prove far better than the author might suppose, in giving new facts and offering valuable suggestions, and it will always redound to his own benefit as an act of discipline. To the older man, who has advanced to the dignity of the veteran and sage, we would say, give us the results of your experience; let the mellow fruits of the autumn of life diffuse their nourishing and sustaining influences in our search after knowledge and wisdom. Every individual occupies a position in the profession which will enable him to extract something from what he sees and what he may discover. This we claim in the name of our fraternity. The benefits, privileges, and honors to which we are entitled by becoming members of a society involve an equivalent in return; and it is this equivalent, in its collective shape, that measures our standing, our influence, and our progress.

In the outset we had occasion to observe that our social conditions are subject to the domination of positive laws. The operation of these demonstrate the existence of an all-pervading principle—namely, progression. Take creation in whatever point of view it may present itself to our notice, and the same order of constant and uniform progression is visible. Everything that has organization is in a perpetual state of improvement or decay. It is the universal law of nature—a law so unalterable that whatever is opposed to it will be overthrown, trodden under foot, and forgotten. As it is in nature, so it is in art; and the application comes to us with a significance that we can neither underrate nor put aside. This is our day and generation, and to our hands is intrusted the present keeping of our art. How will we deal with the duty which falls upon us? Is it destined to be said that we have not made the most of our opportunities? Is it to be that the fields of medicine are to bear no marks of our cultivation? Are there no monuments of grandeur in store for our memory, attesting the fidelity of our trust? Are we to drift through life as the drones of society, or as the nomadic tribes of the desert, who come and go, and leave no traces of their existence? We have the faith of a nobler destiny—one that, with kindly visage, beckons us on to an ever-rising plane and an ever-expanding horizon; and when we look around and see the channels of knowledge broadening, deepening, extending, penetrating into the hitherto unknown riches of our domain, pouring in the exuberance of their treasures with an avalanche accumulation, who will say that an Augustan age is not dawning upon us?

ACADÉMIE DE MÉDICINE, Paris.

A number of corresponding members now in Paris for the Congress of Surgery were at the last meeting of the Académie, Paris. M. Koegel, of Strasburg, read a note upon arthrectomie as practiced by him on gangrene of the knee. The process by which M. Koegel has obtained such good results consists in opening the cap, raising the synovial cavity and the tendons or bones attacked by gangrene, and after applying appropriate remedies, making the limb immovable for some time by means of a silicate plaster cast. The disease should, however, be treated immediately on its appearance. M. Queirel, of Marseilles, had employed antipyrine in hypodermic injections, and with women, as an anæsthetic, to diminish or overcome altogether the pains of labour. This remedy had great success in these cases. M. Doyen, of Reims, made known the result of his researches as to the relation existing between the three microbes—those of puerperal fever, erysipelis, and purulent infection. He is inclined to think that the different manifestations produced by these microbes, depends principally upon their age and development. They undergo evolutions which make it difficult to decide whether they belong to a single or to several species. These observations, taken with those which M. Bouchard recently gave to the Académie, tend to confirm the opinion, that the idea of the species of the microbes depending upon their form, is an error. The same microbe may be found under all the known forms. That is to say, in infectious diseases, these elements, though able to propagate infection and act as a means of carrying poison, are only the agents of the cause of disease, and not the cause itself. They may become the cause, but only in a secondary way, by carrying the disease from one subject to another.

French Congress of Surgeons.

The Third Congress of Surgeons in France has opened. In his inauguratory address, Dr. Verneuil dwelt on all that surgery in France had accomplished up to date, and he drew a parallel between the attacks of Dr. Billroth, the German Surgeon, and the praises bestowed on the efforts and results of French surgery in all the works of the learned societies in every part of the world. M. Verneuil thus spoke: "Dr Billroth, after most violently attacking, with evident incompetence, our illustrious Pasteur, deliberately and without any reason, reproaches French surgery for *not keeping pace with the immense progress in surgical science, made in Germany and England.* I admit that we can, and that we should, learn something from our rivals, but I contend that it should be on a footing of reciprocity. I do not think we have far to go to find, in the esteem of our foreign friends, ample compensation for Dr. Billroth's attacks; in my opinion, no one is less capable than our eminent colleague of appreciating the value of French surgery, for the simple reason that no one is more ignorant of it than himself. If proofs in support of my statement were wanting, I would point out that I seek with you in vain, in the tenth edition of Dr. Billroth's 'General Pathology' as in its first, for the slightest mention of the best French labors." After reviewing all that has been accomplished since the last congress, Dr. Verneuil concludes as follows: "Let us give unreserved praise, gentlemen, to the popularization of surgery, so much in keeping with the humanitarian and disinterested spirit of our race. The spread of surgical research in a democratical spirit, without detracting from the merits of the great, will widen the opportunities of the more humble; and the time is not far distant, when enlightened minds and skillful hands will be found in the remotest corners of our land. If the French Surgical Congress are enabled to hasten so happy an event, then they will have deserved well of science and our fatherland." *M. Ollier, of Lyons,* reported cases of *ankylosis of the wrist by resection,* which left full mobility of the wrist, while at the same time preserving its radial and cubital motor tendons, which were formerly sacrificed. The antiseptic arrangements adopted enabled the operations to be performed without danger. The first case operated on by Dr. Ollier was that of a young lady, already suffering from a compound osseous ankylosis of the elbow. In this case he resected the carp and a centimetre of the bones of the forearm, and enabled her to perform on the piano. Concerning the *ablation of the larynx, Dr. Demous, of Bordeaux,* successfully performed the operation in the following manner: "I first of all made a transversal hypo-hyoidian incision, from the middle of which I carried a transversal incision down to a little above the wound left by tracheotomy. I then effected the vertical incision of the thyroidal cartilage; a step of the greatest importance, as it enabled me to ascertain that the left side was affected. I consequently determined on total ablation, which was effected, leaving only the cricroid, which I levelled by merely extracting the upper part of its amentum. The operation lasted three quarters of an hour, and was most successful, thanks to the Trendelenburg canula, to which I super-added an iodoform pad. The after-treatment was of the simplest." *Dr. Dupont, of Lausaunne,* stated that the danger in the foregoing operation lay in the admission of blood into the respiratory ducts. This is obviated by the use of Trendelenburg's canula; the serious inconvenience of this instrument, however, is that a fit of coughing suffices to expel it. Dr. Dupont said he obtained the same result in a simpler and safer manner by separating the trachæa from the œsophagus, and folding it down forward in the lower angle of the wound, and there fixing it by a suture. This new direction removes it from the axis of the lower extremity of the larynx; and therefore the blood flows back of it. In the operation of ablation, *Dr. Molliere, of Lyons,* excised one-third of the posterior part of the larynx, and a great part of one of the vocal chords, which he afterward sought to reconstitute by suture. He completed the operation by a suture of the epiglottis to the cutaneous wound, in order to prevent the passage of food into the larynx. Dr. Molliere is in accord with Dr. Demous in recommending his method of operation for well-defined cancer. It followed from a long discussion between Drs. Chauvel, Delorme, Poucet, Reclus, Trelat, Labbé, Nimier, Verchére, Chevasse and Castex, that in gun-shot *wounds of the intestine* immediate action of the surgeon offers great chances of success; but that the conveyance of the wounded man, even a short distance, seldom leaves any hope of averting danger.

CLINICAL RECORDS.

QUEBRACHO IN THE TREATMENT OF DYSPNŒA. By Walter P. Ellis, M.D., Livermore, Ky.

In a copy of the *Thérapeutic Gazette*, the date of which I do not now remember, appeared an article setting forth the good effects of quebracho (*Aspidosperma quebracho*) as a remedy for dyspnœa. The article attracted my attention the more forcibly from the fact that I had some weeks previous experienced a great deal of trouble from a case in which dyspnœa was the prominent symptom, and had found nothing that gave permanent relief. The article referred to gave such glowing accounts of the efficacy of the new drug in dyspnœa from any cause, that I determined to procure a sample and give it a thorough trial in the first case coming under my observation. I accordingly wrote Parke, Davis & Co., who sent me a small quantity of both the solid and fluid extracts, sufficient to test its merits. That was five or six months ago, and since then I have used the drug in several cases, and with such uniformly good results that I feel constrained, for the benefit of my brother practitioners, to report my experience in its use, which has been such as to give me great confidence in its efficacy. In the "Working Bulletin" on this drug, sent out by Parke, Davis & Co., I find that a few observers report disagreeable effects, such as "headache, partial unconsciousness, dizziness, and copious salivation," following its continued use for any considerable length of time. These unpleasant secondary symptoms I have not observed in any of the cases in which I have used the drug, although prepared to encounter them by the experience of others. It is very probable that the size of the dose and the manner of exhibiting it have much to do with the production of these untoward effects, and that a proper regulation of these would enable us to obviate them entirely.

The statement that "the frequency of respirations is diminished by the drug, the more decidedly the greater their excess has been over, the normal condition," I have verified in my cases. In other words, those cases characterized by violent dyspnœa with marked cyanosis are more rapidly and certainly relieved than are those in which the symptoms are less urgent.

Up to the present time I have used the drug in seven cases, distributed as follows: one of abdominal dropsy, causing dyspnœa; two of chronic bronchitis, with pulmonary emphysema; and four of tubercular disease of the lungs; and in all of them it was beneficial to a degree beyond my expectations, in no case failing to materially increase the comfort of the patient. I select one case from each class for report.

CASE I.—Mrs. L. W., aged 38, mother of five children, had been in bad health for several years, and in the fall of last year (1886) she began to suffer from ascites. During the past winter she would have frequent attacks of dyspnœa due to the dropsical accumulation in the abdominal cavity, which finally became so severe as to seriously alarm her friends. All the usual remedies had been tried, with little or no benefit, by the practitioner who had charge of the case, and at his suggestion I was called in consultation. In connection with treatment for the relief of her general condition, she was put upon the solid extract of quebracho in two grain doses for the relief of the dyspnœa, given at the time an attack was threatened, and repeated as often as was indicated, with the result of affording almost complete relief from this most distressing symptom.

The sample I had obtained was soon exhausted, when I ordered a fresh supply, as the patient was enthusiastic in its praise, declaring that it was "worth its weight in gold." Its use was continued in this case until the cause which had produced the symptom for which it was given was removed by appropriate treatment, and she is now fully restored to health. Its action in this, the first case in which I had used the drug, was remarkable; the difficulty of breathing was at times so great as to be alarming, when two grains of the solid extract was sufficient to give almost immediate relief, without any bad effects whatever.

It had no action upon the pulse in this case, except to render it a trifle more full without affecting the rate.

Case II.—A negro man, of more than the ordinary intelligence of his race, forty years of age, and by occupation a farmer, has been a sufferer from bronchial catarrh, with emphysema, for the past two or three years. He is able to walk about, but the least exertion gives rise to a difficulty of breathing which is very distressing. He had been under my care about eighteen months before I obtained the quebracho and no remedy that had been administered had been capable of preventing or cutting short the attacks of dyspnœa. Upon the occasion of his first visit to my office after I obtained the drug, I gave him the entire sample of the fluid extract, about one ounce, with instructions to take a teaspoonful whenever he felt the difficult respiration, and also to take a dose just before undertaking any of the small tasks which had previously given rise to an attack. Several days subsequently he returned for a fresh supply, saying that it had "acted like a charm," and that with it he was able to walk about his small farm and attend to its management without experiencing to any great degree the ill effects which had previously followed the slightest exertion. He seemed greatly disappointed upon hearing that he had exhausted the supply on hand, but this feeling was somewhat mitigated when he was informed that I would give him the same drug in a different form. I accordingly gave him a lot of gelatin capsules, each containing two grains of the solid extract, and instructed him to use them in the same way—*i. e.*, to take one capsule whenever an attack of dyspnœa was threatened, and also to take one just before engaging in work of any sort. He has now been taking it perhaps six months, and, while his general condition is not much changed for the better, by taking the quebracho as directed he is enabled to prevent or cut short the attacks which had, previous to his beginning its use, made his life a burden to him.

Case III.—Mrs. M. E., a widow lady, aged 63, of a tuberculous family, was treated twenty years ago by her family physician for phthisis, and with such success that she gradually regained her health to the extent that she was enabled to attend to her household duties. But the germs of the disease were not entirely eradicated from her system, and for the past four or five years she has been a sufferer from that dread disease. It is unnecessary to give a minute description of her physical condition at the time she came under my care; suffice it to say that she presented all the symptoms of a fairly well-developed case of pulmonary tuberculosis. Upon awakening in the morning she would be seized with an attack of coughing, accompanied by great dyspnœa of an asthmatic character, which would last sometimes for several hours, and, passing off, would leave her in a greatly weakened and helpless condition. Under appropriate treatment the cough was considerably relieved, and she seemed better in every respect, with the exception of the dyspnœa, which continued to return at irregular intervals, and at times was so severe as to be alarming. At this juncture I determined to give the quebracho in combination with remedies for the relief of the cough, and accordingly wrote the following:

℞

Syr. prun. virg.,	
Syr. tolutani,	
Ext. quebrach. fld., - - -	āā ℥i
Acid. hydrocyanici dil., - - -	gtt. xxiv
Morphiæ sulph., - - - -	gr. iss

M.

Ft. sol.

Sig.—Take a dessertspoonful as often as necessary to afford relief.

After the first two doses, each containing two-thirds of a drachm of the quebracho, the difficulty of breathing was very considerably reduced, the respirations sinking from 46 to 24 per minute in three hours, and by continuing it according to direction she was enabled to enjoy a longer period of comparative ease than she had experienced for months.

As before mentioned, these asthmatic attacks showed a tendency to come on in the early morning shortly after awaking from sleep, and, with the object in view of preventing them if possible, I gave this prescription,—

℞

Ext. quebracho, - - - -	gr. xviii
Morphiæ sulph., - - - -	gr. iss.

M.

Ft. pil. No. xii.

with instructions to take one pill every morning as soon as she awoke, and before attempting to rise, to be repeated in an hour or two if required. While this did not prevent the paroxysms entirely, it had the effect of shortening them very materially and lessening their severity. The good effects observed from it were sufficient to induce her to continue its use for two months, at which time she removed to a neighboring city and passed from under my care.

In conclusion, I would say that, while my experience with this drug is as yet limited, it has been such as to give me confidence in its power to relieve to a great degree this distressing condition which so often complicates the diseases of the respiratory and circulatory systems, and to convince me that it is entitled to more extended use in all cases in which dyspnœa is a prominent symptom, no matter what may be the primary cause.

As to its mode of action, the theory of Penzoldt, which is that the drug, by its peculiar influence exerted directly upon the blood enables it to absorb more than its usual quantity of oxygen, is probably the correct one.

Report of Two Cases of Successful Intubation. By H. H. De Witt, M.D., Cincinnati, Ohio.

These were both well pronounced cases, with marked laryngeal stenosis. In both the cough was characteristic and the dyspnœa decided, and topographically speaking the disease was descending, the exudate first appearing on the tonsils and from that focus rapidly extending downward into the larynx.

Case I.—I was called to the first case, a boy four years and six months of age, about twelve hours, as near as could be judged, from the inception of the trouble. At this time there was little if any evidence of laryngeal trouble; both tonsils were covered with membrane. At my next visit, on the following day, I found the patient much worse, with all the characteristic manifestations of true croup. The mother informed me that the cough began to assume a hoarse character about 12 o'clock of the preceding night. I explained the nature and extreme gravity of the trouble and the importance of prompt action. Both father and mother readily consented to the introduction of the tube.

Assisted by Dr. A. R. Walker I introduced a tube suitable for a child between the ages of four and five years, but it was at once expelled by a severe paroxysm of coughing. I again introduced it with the same result. A larger tube was then selected and placed in position, giving no further trouble. This was allowed to remain for five days; during this period no nourishment was given by the mouth, the patient being sustained by rectal injections of peptonized milk every two hours.

The medical treatment consisted in the administration of 5 grs. of iodide of potassium and 1-16 gr. of biniodide of mercury every two hours day and night, during the entire period of wearing the tube.

With the exception of a lingering aphonia the patient made a good recovery. For a period of nearly five weeks he could not speak above a whisper. There were two factors, I think, entering into the causation of this condition, viz., the large size of tube used and paralysis of the veil of palate and pharynx. At present reading the patient's articulation is perfect.

Case II.—The second case, a boy, two and one-half years of age, was seen in consultation with Dr. Simmonds, about forty-eight hours after inception of cough.

At this time the little patient's condition seemed extremely critical. The labored breathing and extreme cyanotic appearance of face and neck led me to believe that the child could not possibly survive the night. I went prepared to intubate and did so without delay. The relief afforded the little sufferer was really marvellous; after a few paroxysms of coughing the respirations became free and easy.

As in the first instance, the tube was allowed to remain in position for five days, the treatment pursued being much the same, with perhaps one exception, that the throat was occasionally sprayed with eucalyptus. The recovery was rapid and extremely satisfactory.

Remarks.—In the management of these cases the mistake is often made, I think, of not using larger sized tubes. In both of my cases I used or inserted a size larger than marked on the scale. Although not so readily or conveniently introduced, they will more certainly remain in position, and the results will, I am convinced, be more gratifying. In conclusion, I would add that for a year past nearly all of my cases of diphtheria have been treated with large doses of iodide of potassium and biniodide of mercury, with far better results than other treatment heretofore adopted. To be convinced of its efficacy you have only to try it.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.—MEDICAL CLINIC—DR. WM. OSLER.

MULTIPLE ANEURISM OF THE AORTA.

The post-mortem specimens from this case were brought before the class. The first sac took its origin from the upper part of the ascending portion of the aortic arch. The body of the tumor bulged forward, pressing against and eroding the manubrium, the ends of the clavicle, the costal cartilages, and first and second ribs of the right side, and formed an external mass as large as a cocoanut. The skin had been eroded at two points situated over the most prominent portion of the sac, and through these openings a slow but constant hæmorrhage occurred. A second aneurism, filled with firm, laminated clots, was found at the beginning of the descending portion of the arch, and a third was situated below the diaphragm, just above the origin of the cœliac axis. This also was filled with firmly organized clots.

Previous to his death this man had complained only of some pain in the chest, and moderate dyspnœa on lying down. Otherwise he was in excellent health. The cause of death was exhaustion consequent upon the uncontrollable hæmorrhage carried on through the two erosions in the skin. Fatal hæmorrhage from external openings such as these is of exceedingly rare occurrence. The heart was found to be very slightly enlarged; aneurism seldom produces any cardiac hypertrophy.

PNEUMONIA.

The patient was a man, thirty-four years of age. He had had a bad cough for a week previous to his admission. On the day before he presented himself here the cough grew much worse, dyspnœa became a prominent symptom, and increased pain in the right chest occasioned much distress. There were also heightened temperature, chilliness, and vomiting. On admission the temperature was 101°, respirations 36, pulse 82. The cough was frequent, and accompanied by a rusty sputum. Percussion on the right side gave a high-pitched note in the lower axillary and infra-scapular spaces, but auscultation only a few indistinct râles, without definite blowing breathing. The temperature rose rapidly during the ensuing night, and by morning had reached 104°. Here it remained throughout the day, and then fell to the normal within the next thirty-six hours. The treatment consisted in nitric ether and citrate of potash, and dry cups over the affected area, followed by poultices.

Remarks.—The lecturer regarded this case as a striking instance of a class of pneumonias in which one might find all the rational symptoms of this disease, with an utter absence, or scarcely appreciable presence, of any of the physical signs. Three or four days may pass, during which cough, thoracic pain, rusty sputa, quickened respiration and high temperature may possibly be well marked before the local signs of exudation and solidification reveal themselves. It is to be remembered that the lung is an organ of considerable capacity; that it fills quite a large space; and hence, if the inflammation happens to be deep-seated or central, it will take very careful auscultation to discover the customary râles. It is only when the pneumonia is superficial that the râles and blowing respiration are of easy recognition. As to the treatment of a mild, uncomplicated case such as this, it is, of course, very simple. Scarcely anything more is necessary than confinement to bed, and a mild aperient and diaphoretic course of remedies.

SELECTIONS.

ON PUERPERAL APHASIA.* By F. Bateman, M.D., F.R.C.P., Physician to the Norfolk and Norwich Hospital; Corresponding Member of the Academy of Medicine of Paris, etc.

Aphasia, as a complication of the puerperal condition, does not find a place in our classical treatises on midwifery, and the literature of the subject is so scant that, in the course of my reading, I have only met with one observation recorded in this country, although it has been made the subject of a most elaborate essay by a Continental observer, to which I shall have occasion to refer after the detailing of my own case, which I desire to head as follows:

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* Read in the Section of Medicine at the Annual Meeting of the British Medical Association held at Dublin, August, 1887.

Case of Loss of Speech Occurring as a Puerperal Symptom; Lacteal Derangement; Right Hemiplegia; Fatal Termination.

On September 7th, 1886, I was requested to see, in consultation with Dr. Watson, of Norwich, Mrs. S., aged 23, who had given birth to her second child eight days previous to my visit. Upon inquiry I ascertained she had never been the subject of any cardiac or rheumatic affection, that she had never suffered from any nervous disorder, and, in fact, that she had always enjoyed good health during her single life, with the exception of a disposition to occasional headaches. Her mother was insane, and died in the Norwich City Asylum, but beyond this fact there was no neurotic tendency in the family.

She was delivered of her first child in July, 1885, and at the seventh month of her first pregnancy she had some obscure symptoms with some embarrassment of speech, which lasted about a month. Her first confinement passed off quite naturally, and she nursed her child for nine months, at first with both breasts, but in one breast (it is believed to have been the left) there was galactorrhœa for some weeks, and then the supply ceased entirely in this mamma.

Mrs. S. continued quite well till three months before her second confinement, when a gradual loss of power occurred in the right arm and leg, but principally in the arm. A month before her confinement embarrassment of speech was noticed, which culminated in complete aphasia six days after delivery, which was quite natural, and unattended by any straining or unusual effort; there was no hemorrhage, and the lochia was quite natural. The total loss of speech was sudden, for on the evening of the fifth day, although her speech was embarrassed, she could converse and make herself understood; but on the morning of the sixth day it was observed that she was completely aphasic; there was no loss of consciousness, and her general appearance was as usual, the only difference being the total suspension of articulate language. This sudden exacerbation of her symptoms could be attributed to no apparent cause; she had not been exposed to any mental shock or disturbance of any kind, but a thunderstorm of very unusual severity occurred the evening before.

On the second day after her delivery there was a sudden turgescence of the breasts, with an unusual quantity of milk, the lactal secretion being so abundant that, although the child sucked vigorously, the milk had to be removed artificially; the supply was equal on both sides. This lacteal overflow was but of short duration, for the next day the quantity diminished perceptibly, and on the fifth day the child had to be weaned, because the supply was gone.

At my visit on the eighth day after parturition, I found her with right hemiplegia and aphasia, and I observed that she was unable to protrude the tongue. There was no pyrexia; the temperature was normal; the pulse was 74, and there was no cardiac trouble of any kind; there was no pain or swelling of the body, and no abdominal or pelvic complication whatever; there was, however, retention of urine, but nothing abnormal in the secretion itself.

Although unable to speak she evidently understood all that was said, and seemed annoyed, and became angry when too many questions were put to her, and to every question, whatever it might be, she invariably said, "The other day." I asked her how many children she had, she replied, "The other day." I asked her what she had taken for her breakfast, she replied, "The other day." She could say nothing else, and this recurring utterance, whether appropriate or not, she repeated on all occasions; it was a stock phrase, and, of course, had no intellectual value.

Without developing any fresh symptom Mrs. S. gradually became weaker, and sank from exhaustion six weeks after her confinement; and within an hour of her death, in answer to an inquiry as to how she felt, she replied, "The other day," which was the only phrase she had uttered since the commencement of her attack.

The above case is interesting from the association of aphasia with the puerperal condition. Hemiplegia is not an uncommon symptom connected with pregnancy and childbirth. Churchill has recorded twenty-two cases of paralysis during pregnancy collected by him from various sources, but although difficulty of articulation may have been noticed in some of these cases, it was simply due to paralysis of the tongue and the muscles which are concerned in the articulation of words without any real disturbance of the faculty of language.

Aphasia as a complication directly connected with the puerperal condition seems to be rare, at all events, it has escaped the observation of the writers on obstetrics, for, amongst 8,000 cases of midwifery recorded by a French authority, M. Sireday, not a single instance of the coincidence of aphasia is mentioned. The only case that I have met with in my reading is one recorded by Dr. Leith Napier, the subject of which was a lady, who, seventeen days after her confinement, on being subjected to considerable vexation, suddenly became speechless; this was followed in three days by partial paralysis, which culminated in complete hemiplegia two days later. Dr. Napier attributed the above symptoms to occlusion of the left middle cerebral artery from embolism. The patient slowly improved, and eventually recovered.

It is only quite recently that prominent attention has been called to the association of aphasia with the puerperal condition by a most interesting and exhaustive article by M. Poupon in *L'Encéphele* for July, 1885, entitled "Des Aphasies Puerpérales," under which name he comprises the divers varieties of disturbance of speech which occur either during pregnancy or during the period of lactation, observing, however, that the occurence of aphasia under the above condition is extremely rare, although he says that the traumatic and moral shock which recently delivered women may experience, cannot but seriously influence the nervous system. This important communication is based upon a case observed by the author at La Charité, in the ward of Dr. Laboulbène. The subject of it was a woman, aged 24, J. M., who, on the second day after a perfectly natural delivery, was seized with right hemiplegia and aphasia, her vocabulary (as in my own case) being limited to three or four words in answer to all questions, the expressions used being, "*Eh bien*," "*Oui, oui*," "*Mais jamais*." She was also the subject of word-blindness, but not of word-deafness.

This patient is described as having had an attack of articular rheumatism some years before, and as there was hypertrophy of the heart with mitral disease, the author makes the diagnosis of embolism of the left middle cerebral artery, due to a mitral constriction, upon which was superadded an endocarditis, caused by her puerperal condition; he explains the fact of the sudden occurrence of the symptoms of embolism on the third day, by the hypothesis that the embolus might have been nearly detached during the labor, but that a fresh effort was necessary to complete its separation, and as she was suddenly taken speechless whilst at a meal, he thinks the change from the recumbent to the sitting posture may have been sufficient to complete the detachment of the embolus. M. Poupon enters at considerable length into the pathology of the above case, and also gives a short analysis of others that have fallen under his notice, in two of which he says there was an evident relation between the lacteal secretion and the appearance of the aphasia; in one instance, however, the lacteal disturbance preceded the cerebral accidents, and in the other it followed them; in the latter case (which was one of exceptional interest, from the fact of the subject being left-handed, and the paralysis being on the left side) it is stated that from the moment the left hemiplegia and aphasia were observed, the lacteal secretion ceased in the right breast, whilst in the left (the paralyzed side) it appeared to increase, and was much more abundant than usual. According to the statement of the patient, the temperature of the left or paralyzed side, as well as that of the corresponding breast, was higher than on the right side; the perspiration was also much more copious on the left than on the right side.

In commenting upon this last observation, M. Poupon calls attention to the increase of the lacteal secretion, under the influence of the paralysis, and he considers the pathological condition was probably vaso-motor paralysis of the breast, resulting in dilatation of the vessels, and a more abundant secretion of milk. He adds that women who have experienced a first attack of aphasia as a sequel of delivery should avoid a second pregnancy, and he quotes a case occurring in the practice of M. Gignoux, of Lyons, in which aphasia occurred in two consecutive pregnancies. It will be remembered that this was the case in the history of the lady who formed the subject of my own observation. We know but little of the effect of lacteal disturbance on the nervous system; and in a recent interesting discussion at the Obstetrical Society of London, Dr. Matthews Duncan commented upon the neglect of the scientific investigation of the process of lactation, and the deficiency of literature connected with this important department of practice.

On reviewing the symptoms manifested by the patient whose clinical history I have described, it will be noted that Mrs. S. never had any rheumatic affection, or cardiac complication of any kind; the labor was quite natural, and there was no feature in her condition to suggest the idea of septicæmia, or of blood dyscrasia. The only unusual symptom was anomalous lactation, for it will be remembered there was great turgescence of the mammæ, and an excessive flow of milk—quite a galactorrhœa for twenty-four hours—and then a somewhat sudden disappearance of the secretion. From the comparative rarity of the association of loss of speech with the puerperal state, I hesitate to venture upon any decided opinion as to the pathology of the above case. The symptoms could scarcely be due to any merely transient cause, for they had existed in a modified form for three months before parturition, and became intensified in a few days after labor; the absence of any cardiac lesion, and the gradual development of the nervous symptoms, would rather point to cerebral thrombosis than to embolism.

The Treatment of Dyspepsia. By William Murrell, M. D., F.R.C.P.

Dr. Murrell's second clinical lecture at the Westminster Hospital, London, this session was devoted to a consideration of the best methods of treating dyspepsia. He stated that he found it by no means an easy matter to frame a definition, at once concise and accurate, which would include all forms of this protean malady. We knew little or nothing of its morbid anatomy; it was absurd to speak of it as an affection of the stomach, for in many cases all parts of the alimentary canal, and even of the secreting glands connected with it, were affected. In what was called "nervous dyspepsia" the disturbance of function was not in the abdominal viscera, but in the higher nerve-centres. For practical purposes, however, two great classes of dyspepsias might be recognized —one in which there was a deficient secretion of gastric juice, amounting sometimes to almost to suppression, and another in which there was an excess of acid in the stomach, due either to hypersecretion or to fermentation of the food constituents—the consequent formation of lactic, butyric, and acetic acids. There was another and a rarer form, in which the food was retained but a short time in the stomach, and was then passed through the pyloric orifice into the intestines, where it excited peristaltic action and gave rise to a copious evacuation immediately following each meal.

The treatment of cases of dyspepsia due to deficient secretion was simplicity itself. Pharmacological investigation taught us that alkalies increased acid secretions. The gastric juice was acid, so that all that was necessary was to give an alkali before meals. It mattered little or nothing what alkali was given; it was simply a matter of convenience and custom. As a matter of fact, the favorite alkali in these cases was bicarbonate of sodium, and it was usually administered in conjunction with tincture of gentian or some other stimulating bitter tonic. The gentian and soda mixture was a great favorite, and was a stock remedy all over the world. Large practices had been built up on a knowledge of therapeutics not greater than would enable its possessor to write out this simple formula. As an accessory measure, it was useful to give a few drops of dilute hydrochloric acid, with or without nux vomica; immediately after meals.

In the treatment of the second group of dyspepsias, characterized by an excessive formation of acid, an exactly opposite system of tactics must be pursued. Acids checked acid secretions. The patient was suffering from acidity—to use a popular phrase—so we gave acids before meals, the usual prescription being fifteen drops of dilute hydrochloric acid with tincture of nux vomica and gentian a quarter of an hour before dinner. Sometimes, however. this fails to check the formation of all the excess of acid, and then the best plan for the relief of the sufferer was to administer a compressed tabloid of bicarbonate of potassium or a dose of sal volatile. Occasionally we succeeded only in getting rid of the acidity, and failed to remove the flatulence. This, however, presented no difficulty, for an antiseptic would check the continuance of the fermentation and give almost immediate relief. It mattered very little what antiseptic was employed—carbolic acid or creasote would do well enough—but it was usually found more convenient to give one of the essential oils, such as oil of cajeput (in three-drop doses), or, better still, pure terebene or the newly-discovered pinol.

Arsenic was found to be wonderfully useful in those cases, already referred to, where the food passed too rapidly through the intestinal tract, and it was equally efficacious in gastritis simulating dyspepsia. A good indication for its administration was when the tongue was furred and covered with red and irritable papillæ. A drop of the liquor arsenicalis might be given every three hours, or one of the compressed tabloid triturates, containing $\frac{1}{100}$ grain of arsenious acid, before each meal. Opium (a drop of the tincture) or morphine ($\frac{1}{20}$ of a grain), in small doses, was equally useful, and nux vomica was the best remedy when the patient complained of pain and weight at the pit of the stomach, accompanied by acidity and heartburn. Ten drops of the tincture of nux vomica, in a tumbler of water, could be sipped slowly in the morning before breakfast whilst dressing, or a compressed tabloid, containing one minim, could be taken at intervals during the day, with an additional dose before and after meals.

Pepsin was of great value in the treatment of dyspepsia if certain points were attended to in prescribing it. It would not do simply to write down "pepsin"—pepsin by itself, unqualified, had no meaning—and it was essential to indicate distinctly what brand of pepsin was required. The lecturer stated that, during the last two years, he had tested carefully all the pepsins of which he had been able to obtain specimens. The results were somewhat startling. Of two different kinds of pepsin, equally popular and equally well known, one was found to be five times as active as the other. The best pepsin was Fairchild's; Bullock's came next, and then Squire's. The French and German pepsins were a long way down in the list, and could not be compared for one moment with either the English or the American. It was difficult to institute a comparison between pepsin itself and the various fluid preparations of pepsin. Taking them weight for weight, the best pepsin was twenty-three times as active as the best liquid pepsin. It migh be argued that the dose of the liquid preparation should be much greater than that of the solid, but that was only another way of saying that it was less active. Another point in the administration of pepsin was to give plenty of it, and to give it immediately after food. The ordinary dose was too small, and no hesitation need be felt in giving from fifteen to twenty grains. It was often said that pepsin yielded good results in the treatment of children, but failed with adults. The explanation was that children were usually given the ordinary adult dose. If grown-up people were treated with equal liberality there would be few complaints of its inefficacy. Of late years, a great deal had been written about *carica papaya* as a digestive agent, but, as a matter of fact, papaw juice could not compare in activity with the pepsin, and papain and papayatin were not much better. The best papain examined had about half the activity of the best pepsin, as shown by experiments made both in acid and alkaline solutions. In many forms of dyspepsia—"starchy dyspepsia" especially—extract of malt was found to be the most powerful therapeutic agent. Here, again, much care was required in the selection of a thoroughly good and reliable specimen. The plan of predigesting milk and other articles of food with zymine answered admirably, and should always be resorted to in intractable cases.

There were certain accessory measures to which it was essential to pay attention in the treatment of dyspepsia, and special methods of treatment, such as washing out the stomach, might be found useful. The condition of the teeth was a matter of the greatest importance. Very often the patient had a good set of incisors, but nothing available for mastication. Stumps would have to be removed, teeth stopped, and often a complete denture fitted before anything else could be done. The physician and the dentist should co-operate and work hand-in-hand for the benefit of their patient. The custom of taking meals hurriedly and alone was a fertile source of dyspepsia. The sufferer, if a bachelor, should live in a family or join a club and dine there. A fair amount of work and exercise was essential for the patient's well-being, and he could not hope to digest properly unless he did something to earn an appetite. For the busy man of sedentary habits, riding should be recommended as a good means of stimulating the action of the liver and affording exercise without causing too much fatigue. The meals should be taken in a bright, pleasant, well-lighted room, and too much attention could not be paid to the accessories of the table. The food should be abundant and varied in quality, whilst the post-prandial cup of coffee, with a cigar or cigarette, might rank as useful therapeutic agents. A fair amount of stimulants taken only at meals—such as half a pint of sherry or a pint of good claret, often served as an aid to digestion. Some patients, however, derived more benefit from a little whiskey and apollinaris than from wine. As a substitute for sugar, saccharine might be recommended.

The lecturer, in conclusion, referred briefly to what was frequently called "American dyspepsia." Indigestion, in various forms, was undoubtedly very common amongst Americans, and might be attributable, in some measure, to the high pressure at which they lived, and the hurried manner in which meals were taken. The custom of drinking large quantities of ice-water at the commencement of a repast might prove injurious by diluting the gastric juice, whilst the absence of stimulants was not always an unmixed blessing. The plan followed by many hotels, of placing all the dishes on the table at once, was not to be commended, especially in the case of patients with small appetites and weak digestion. Still, the great variety and choice of food universally met with in the United States was an advantage. Many Englishmen were greatly benefitted in health by a trip across the Atlantic, and no one could fail to admire and appreciate the generous hospitality with which strangers and visitors were always received. Many Americans now-a-days visited England as the quickest, surest, and best means of obtaining relief from dyspepsia, and the treatment, if carried out under under efficient guidance and supervision, often worked wonders. Massage was a valuable accessory agent, and seemed to be especially adapted for ladies requiring rest and relaxation and freedom from the worries and cares of everyday life. The facilities for crossing the Atlantic were now so great that it was surprising that more dyspeptic sufferers did not avail themselves of this means of effecting a cure.

The lecture concluded with an exhibition of ménus illustrating various schools of cookery and the dietary suitable for invalids.—*Lecture delivered at the Westminster Hospital, London.*

TRANSLATIONS.

OSSIFLUENT ABSCESS; OSTEITIS OF THE PELVIS. Translated by E. P. Hurd, M.D., from the French of M. Terrillon.

Gentlemen :—I shall take as the subject of to-day's lecture two patients, one of whom is a youth sixteen years of age, the other a woman 29 years old. The first patient had been suffering from slight pains and soreness in the anal region; then a well-defined swelling appeared there, which had attained the size of a large chestnut, when it was recognized as an abscess and opened by a physician who was called in. The incision did not heal, and there remained a fistula which proved utterly rebellious to treatment. This fistula remains to-day, and gives vent to considerable clear serous pus, mixed here and there with a few drops of blood. By the side of this fistulous orifice you may see a little purplish swelling, which projects somewhat above the surface, is indurated and presents a characteristic to which I invite your attention, namely, that it rests on a base which is hard and painful on pressure. By the fistula neither gas nor stercoraceous matters find vent; and, though one would be inclined, at first, to regard it as a fistula-in-ano, he is soon convinced of his mistake. Indeed, if you explore the tract with a probe, you see at once that the instrument takes a direction away from the rectum, which shows that the disease is not a simple anal fistula; the probe, in fact, penetrates two inches at least, in two different directions, but always externally, with an inclination toward the ischium. This exploration, moreover, enables you to determine the existence of profound detachments of tissue.

If, at the same time that you make this examination, you introduce the finger into the rectum, you can easily ascertain that it is separated from the probe by quite a considerable thickness of tissue, which seems hard, especially on the side toward the ischium, and this materially helps the diagnosis. Here, as you should always do when it is possible, you ought to compare the diseased with the well side. The pulp of the finger turned toward the internal aspect of the right ischium finds nothing abnormal; the suppleness of the tissues enables you to to feel the hardness of the bone; the same exploration, on the contrary, when made on the left side, where the fistula is seated, reveals the presence of an induration which is precisely the same as that indicated before by the probe, and which gives a very different sensation from that given by the healthy bone on the other side. If you press upon this induration, the patient feels pain; there is, then, disease of some kind at this point, and it is here that we are to search for the origin of the fistula. From all these signs we are warranted in affirming the existence in this case of an irregular focus of inflammation, one prolongation of which occasions the cutaneous induration in the neighborhood of the fistulous orifice; we have here the indication of a secondary pus burrow.

What can be the cause of this kind of fistula, unless it be a lesion of the bone? But what is the nature of this bone disease? This must be determined before a rational prognosis can be made, or a suitable treatment instituted. You are aware, gentlemen, that the question of ossifluent abscesses has become quite prominent of late, by reason of recent discoveries in pathological anatomy, which enable us to affirm their tuberculous nature, and by reason of the modifications which their treatment has undergone. What, then, is the lesion of the bone? We cannot go astray in assuming it to be tuberculous. The osseous tubercle, which is always found when it is sought for, is ordinarily developed without any traumatic cause. You see at first, under the periosteum, a mass of embryonal cells, which destroy the osseous trabeculæ; then, at the end of a certain time, you are sure to find opaline granulations of tubercle in the midst of this mass. Lastly, these tubercle granula degenerate; become yellow, caseous; liquify and form a tuberculous abscess. The abscess, however, does not always follow the lesion; may not pass the stage of caseification; and in this case resorption is still possible. Whenever a lesion of this kind is produced in a bone, the latter institutes a sort of protective process; around the tuberculous nodule an inflammation is set up, a zone of condensing osteitis, which establishes a barrier between the healthy and the diseased parts.

But it must be admitted that oftener an abscess forms, the periosteum is elevated and ulcerates, and pus invades the neighboring cellular tissue; the abscess sac then enlarges, and soon approaches the surface. To a small osseous lesion may correspond a vast abscess, connected with the bone by a narrow neck, and containing several quarts of pus.

You have certainly seen those vast abscesses which are consecutive to Pott's disease of the spine; these are perfect types of ossifluent abscesses. We have not to do merely with the bony lesion and the pus which it secretes. This lesion is often too insignificant to explain these great collections of matter; but there exists also an anatomical reason which enables us to comprehend the often prodigious development of these abscesses. This reason is the texture of the sac which contains them, and which in these particular instances truly merits the name of *pyogenic membrane.* It is a matter of common observation that when these abscesses open, the fistulous tracts, the neighboring tissue-detachments and the surface of the diseased bone are covered with fungosities; a sort of tomentose membrane fills all the cavities and secretes the pus, and this explains why these lesions so obstinately persist, despite energetic treatment. What we surgeons are most apt to see is the relics of these abscesses, as in the case of our little patient.

The anatomical constitution of this pyogenic membrane explains the prolonged suppuration. It is especially to the studies of Lannelongue and of Koster that we owe the knowledge we possess of this subject. This membrane is formed of three generally quite thick layers thus superposed: 1. An internal layer in relation with the pus, which is of fungous character, being constituted of fungous granulations. 2. More deeply still, a layer of gray tubercle granula. 3. A fibrous or limiting membrane. Hence, it is easy to understand why irritant injections do not succeed in completely destroying this new formation; it is only by the red hot iron, or by curetting and scraping carefully and thoroughly done, that we can hope to effect the disappearance of this membrane and thus obtain a cure. This method of treatment is applicable to all cold abscesses.

Those pus-burrows, those glove-finger prolongations which characterize this kind of abscess, find an explanation in pathological anatomy, for upon this membrane there are little *culs-de-sac* which seem to be the starting point of future prolongations. Hence arises the necessity, when you curette an abscess, of taking the utmost pains not to neglect any of these *culs-de-sac*, and to scrape out all the prolongations; unless you do this you will have your work to do over again. These lesions are unquestionably of tuberculous origin; histology proves it, clinical practice confirms it, and the constant presence of the tubercle bacillus may be regarded as infallible evidence of it.

What shall be the prognosis of these abscesses? and what would become of this lesion if left to itself? It is undoubtedly true that now and then an abscess of this kind has got well of itself, especially when it originates in the walls of the pelvis; but such cures are very exceptional, and only come about after a long time. I have, however, seen a few of these abscesses get well after one or two aspirations.

In order to obtain a speedy and favorable termination, surgical intervention is required. Bear in mind that it is a bad plan to leave a patient who is suffering with ossifluent abscess too long exposed to the evils of suppuration; for, by reason of the nature of the disease, you would have reason to fear a general infection starting from this local tuberculosis, and you might ultimately see your patient carried off by pulmonary phthisis or tuberculosis of the peritoneum. In the case of our young man, I do not think that we can look for a spontaneous cure; this hardness in proximity to the fistula—this violaceous and indurated swelling—prove to us that the affection is far from the period of decline, and rather on the increase. Moreover, the patient is in bad condition physically, and is a fit subject for the spread of the tuberculosis, and this would be a sufficient reason why I should surgically interfere. Considering the location of the abscess, we cannot employ the antiseptic dressing in all its rigorousness; but I will perform the radical operation by means of the thermo-cautery, and I will cauterize deeply all parts of the fistulous tract, in order thoroughly and completely to destroy the membrane which lines it. After having previously removed all the fungosities, as soon as I shall come down upon the bone, I will make use of the curette, in order to scrape away all the diseased tissue as far as the indurated zone. As there will be bleeding points in our wound, I will afterwards, as a dressing, pack it with tampons of iodoform gauze.

I have just given you in connection with our young patient the history of ossifluent abscesses in general. We have in our wards a female patient whom I shall now present, who will illustrate more especially osteitis of the pelvis, and its pathogeny. This woman is now twenty-seven years of age, but it was at about the age of thirteen or fourteen years that she experienced the first symptoms of the disease which to-day brings her to our wards. At this time of life she fell, striking the region of the pelvis; the traumatism was quite slight, since, at the present time, she cannot specify exactly the point that was contused. Three months afterward, there presented itself in the right inguinal region a little indolent swelling, which became fluctuating, and burst, giving issue to a certain quantity of pus; this abscess was then transformed into a fistula which persisted for a number of months, and finally got well of itself. At the end of a certain time, as a result of too fatiguing work, this fistula broke out anew, and another one like it was produced by the same mechanism in the region of the left groin. Meanwhile the patient married, and had a child; these fistulæ continued to cause no serious harm, appearing and disappearing from time to time, but never entirely getting well. For some time past, and since the commencement of a second pregnancy which is now going on, there has been an aggravation of the local disease. Quite severe pains have been felt about the upper and posterior part of the right hip where a new abscess has formed, ending, like the previous one, in the production of a fistula. The one on the left side, which for a time was healed, has broken out anew. A probe introduced into these fistulæ penetrates to a considerable depth, but does not strike bare bone. The palpation of parts in the vicinity of these fistulæ discloses a good deal of swelling, and at the same time a fixed *point douloureux* on the right side in the neighborhood of the os pubis. The finger introduced into the vagina detects the same swelling, and elicits the same pain when high pressure is made on the lateral wall of the same side. But this is not all; if the pressure is continued for a certain time, it gives rise to the flow of a quantity of pus by the newly-formed fistula. The rectal touch does not elicit any similar symptom. The pressure of the finger on the left lateral wall of the vagina does not at first give rise to any symptom worthy of note; when, however, it is made with considerable force, it also determines a painful sensation in the region of the pubic bone of the same side.

These symptoms undoubtedly point to a lesion of the pelvis, probably of its pubic portion. We may even be sure that the pus which is formed in the diseased foci has made for itself a passage through the soft parts of the vicinity, and has finally pointed at quite a distance from its source.

Such are the lesions with which our patient is afflicted. What is the prognosis and what shall be the treatment? Such are the questions now before us. But, before taking up this part of our subject, permit me to indicate to you, in a few words, the pathogeny of this variety of osteitis, which has been for several years the subject of numerous works, of which you will find a summary in the recent excellent thesis of Gouilloux, pupil of Ollier, of the School of Lyons. The ossification of the different pieces which enter into the composition of the os innominatum takes place by two successive developmental processes. In the first period, the os innominatum is constituted by three distinct segments, corresponding to the ischium, the pubes, and the ilium, which converge toward the centre of the cotyloid cavity, and are separated from each other by connective cartilage. At about the age of ten or twelve years, this cartilage ossifies, and the bone is constituted in its essential characters. But about the age of thirteen or fourteen years, a little earlier in females than in males, there appear, at the periphery, complementary points of ossification, separated from the bone by a special connective cartilage. These are the pubic points, for the internal extremity of the pubis, the iliac points for the crest of the ilium, the ischial points for the tuberosity of the ischium, the ischiatic points for the ischiatic spine, and lastly the posterior iliac points for the postero-superior spine of the ilium.

Now, since the spontaneous lesions of the bone habitually develop in points which border on the connective cartilage, this being the most active seat of osteogenesis, the following results are sure to happen: During the first twelve or thirteen years of life, the bone diseases of the pelvis localize themselves always at the centre of the bone—that is to say, in or around the cotyloid cavity. You know, in fact, that up to this time of life, coxalgia of bony origin is very frequent, while very rare after this period. From the age of fifteen years, things take place differently. When the pelvis becomes the seat of an idiopathic osteitis, this always, or almost always, develops in the peripheral parts, in certain well-defined spots, which are none other than the points of ossification of which we have just spoken. There are, then, osteites of the internal part of the pubes, of the tuberosity of the ischium, of the crest of the ilium, of the spine of the ischium, of the posterior-superior spinous process of the ilium. Add that it is not rare in these osteites, at least at the onset, to find a sequestrum which is constituted in its totality by the osseous part, the epiphysis, not yet united to the rest of the bone. Unfortunately, matters do not always rest there. The affection does not always remain localized to the epiphysis; it may extend to the diaphysis, and to the periosteum, which covers it, so that, limited at first, it becomes general, and in time acquires a gravity which it did not have at first.

You see at once, without the necessity of my longer insisting thereon, the importance of early interference, if one would prevent the extension of the disease. A little operation performed in time often suffices to accomplish the radical cure of a lesion, which, if it goes on, cannot be benefitted by the most extensive and formidable operation. However this may be, these osteites, when once developed and left to themselves, undergo evolution in two ways. Sometimes they take on an acute march with inflammatory phenomena of considerable intensity, vast detachments of the periosteum, and grave general symptoms of a typhoid character. This train of symptoms, which is none other than that of infectious osteo-myelitis, designated under the name of *typhus of the members*, is not now under consideration; this is not in fact what our patient has been suffering from. At other times, the disease has a less rapid course and one fraught with less anxiety. The inflammatory phenomena are moderate for a long time; the lesions are localized, giving rise to pains having their principal seat at the diseased point, but likely to radiate to different parts. In a city patient, suffering from this same affection, and in whom I had to remove the spine of the ischium, the pain was felt chiefly along the course of the sciatic nerve, and that person had in fact been treated for more than a year for ordinary sciatica. The same painful irradiations may affect the crural and obturator nerves when the disease is seated in portions of the neighboring bone. At the end of a certain time, the pus, which forms in the diseased focus, tends to make its escape externally. Almost always the pointing occurs in a spot which is at considerable distance from the seat of the pus formation. We must, however, make exception in this case of the pus which comes from lesions of the crest of the ilium; this part being subcutaneous, the abscess points immediately over the spot where pus is formed.

Things are quite different when the pus comes from some of the other regions of the innominate bone. The pus has been known to open a way into the vagina, the bladder, the rectum, into the septa of the crural muscles, sometimes as much as ten or fifteen inches from its starting point. I have even seen an abscess of this kind open in the neighborhood of the popliteal space. These are facts of an uncommon character, of which, however, you must be cognizant if you would avoid gross mistakes in diagnosis.

The young girl from whom I removed the spine of the ischium, and of whom I have just spoken to you, had at the time I operated on her a fistula in the neighborhood of the anterior-superior spine of the ilium, and another in Scarpa's triangle. At three different times she has passed pus by the rectum; for six months the abscess emptied itself into the bladder. In cases like this authorities have sometimes seen fistulæ of like nature complicated with the passage of a sequestrum into the bladder, and this sequestrum has finally become the nucleus of a veritable calculus. When the fistula is not too far away from the diseased point, and can be explored, you will sometimes find simple sequestra surrounded with fungosities. I have already spoken to you of these sequestra, and have shown you that such cases are the most favorable—sometimes so favorable that the sequestrum may be eliminated spontaneously, and the patient will get well without the necessity of surgical interference. At other times the probe comes upon a bony surface in continuity with the rest of the bone; this surface is bare, friable, bleeding at the least touch, and, if exposed, you observe that the diseased part extends a great distance: it has been found to occupy the half of the ilium.

The prognosis is in relation with the extent of the lesion. Benign in mild cases, since the disease may get well of itself, it is very grave, and finally entails death, when a great extent of the bone is diseased. It is true that, in the latter cases, the patient sometimes preserves for a long time the appearances of health. I need only refer you for proof to the patient who is the subject of my lecture. Her disease, which began about the age of fifteen years, constantly progressed for thirteen years; and, nevertheless, she married, had one child, and became again pregnant. But this favorable condition cannot last. Under the influence of the interminable suppurations to which these patients are subject, there is developed, sooner or later, a special cachexia due to exhaustion, to amyloid degenerations of the liver and kidneys, as well as blood poisoning from stagnation and absorption of pus; and, finally, the patient falls into marasmus and dies.

The treatment of these lesions is dominated by this fact, resulting from what I have just told you, that early interference is necessary while the lesion is limited to the epiphysis, and is manifested by the presence of a sequestrum, which is the epiphysis itself. Our first patient, as I have told you, was in this condition. I removed the part of the ischium which was diseased, and doubt not that the event will prove that a radical cure was effected. It will not always be necessary to attempt at once the search for the diseased bone. You would be perfectly warranted, when in the presence of a recent abscess, in restricting your efforts at first to a simple puncture with the aspirating needle, which you may even repeat several times. I have had the opportunity of observing four patients who were plainly affected with these varieties of osteites, and who have been radically cured after four or five punctures. In two of them the lesion was seated on the rami of the pubes; in one it was in the iliac fossa; in one in the posterior-superior spine of the ilium.

This simple method of treatment, however, ought not to be continued indefinitely; and if, at the end of a certain time, which should vary according to the gravity of the lesion, no amelioration is produced, you should cut down upon the seat of lesion, and remove any diseased or dead parts. Once it was the custom to wait till the abscess burst of itself; it is no longer necessary to exercise this caution now that, with Lister's antiseptic dressing, we are able to insure the patient against the dangers of that septic fever which formerly was an almost certain accompaniment of the spontaneous opening of these osteopathic abscesses.

When the abscess has its origin internally in the iliac fossa, it has been proposed to attempt its exploration by trephining the iliac bone. This is an excellent means; moreover, in certain cases it is the only means which satisfies the indications of giving sufficient access to the focus of the disease. I need not say that if, instead of a loose sequestrum, you should come upon a spot of carious bone without precise delimitations, you should remove all the diseased tissue. In cases of this kind Ollier has performed ablation of portions of bone which were truly enormous, and has had only good results. You should bear in mind, furthermore, that the operation is of benefit to the patient, even when it is impossible to remove all the diseased bone. There is, in fact, always an advantage in being rid of a suppurating surface of bone of considerable dimensions, whose presence is a powerful source of enfeeblement and cachexia.

The free opening of all pus tracts and pus burrows in a downward direction, so as to facilitate the flow of pus, also renders great service to patients, even when you cannot scrape away or remove the diseased bony tissue.

It it these latter considerations which have induced me to propose interference in the case of our patient. When she shall have completed the puerperal period I shall undertake an operation in search of diseased segments of bone, and any which may be found shall be removed as thoroughly as possible. I do not dare to hope that I shall thus succeed in wholly arresting and suppressing the disease, and thus curing the patient; but what I am sure of is that I shall notably ameliorate her condition and prolong her life, while making it much more comfortable.

ABSTRACTS.

THE RADICAL CURE OF HERNIA.— At the Fifty-fifth Annual Meeting of the British Medical Association papers were read by Banks, Macewen, and Ball on the subject of hernia, each describing and advocating his own peculiar method of operating for the radical cure (*Brit. Med. Jour.*, Dec. 18, 1887). The methods of Banks and Macewen have been so frequently described that details are unnecessary. Banks ligatures the sac as high up the canal as possible and removes it, and, in inguinal hernia, brings the pillars of the ring together with silver wire. This he does, not with the intention of closing the inguinal ring, attempts to do which, he pronounces theoretical and useless, but only to hold the parts together temporarily, while the wound heals, to prevent danger from coughing or straining. From a table of 106 cases we find that he has had two deaths after operations on fifty-two moderate sized non-strangulated hernias, four deaths in sixteen cases of very large non-strangulated hernias, and three deaths in thirty-eight cases of strangulation. Of sixty-six cases of moderate sized and strangulated hernias which could be traced after operation, forty-four were successful, seven partially successful, or probably successful, and fourteen failures. Nine cases of the very large hernias could be traced, six being successful and three failures. He considers that operative procedures are seldom required in children, that no person should be subjected to operation who can comfortably wear a truss which keeps the bowels in position, and that after the operation a support should be worn.

Macewen exhibited a table of eighty-one cases in which he had performed the operation which bears his name, with no deaths and only one failure. The principle of the operation is to convert the sac into a pad, placed on the peritoneal surface of the internal ring, to act as a boss to turn away the intestinal wave from the opening. He then closes the internal ring by a double suture, inserted in such a manner as to imitate, as far as possible, the valvular form of the normal canal. For this purpose he deems his hernia needles indispensable. Very few of his patients needed to wear a support, which usually he does not recommend. He considers that a plug left in the canal tends to widen rather than obliterate it.

On the contrary, Ball employs torsion of the sac, and its retention in the canal to act as a plug. He isolates the sac from the cord up to the internal ring, and loosens the peritonæum from its attachments for a little distance from the opening. After determining the sac to be empty, he grasps the neck with a broad forceps, and twists it until it is felt to be quite tight, the left forefinger being employed to keep the upper portion of the neck free. Usually four or five complete revolutions suffice. A stout catgut ligature is then tied tightly about the twisted sac as high up as possible. Two silk sutures are then passed through the skin, about an inch from the outer margin of the wound, through the outer pillar of the ring, through the twisted sac in front of the ligature, through the inner pillar of the ring, and out through the skin. The sacis then cut off in front of the sutures. This torsion throws the peritonæum into folds, radiating from the internal ring, at which there is a prominence rather than a depression. During the last four years he has performed this operation twenty-two times, with no deaths. In three cases a support had to be worn on account of bulging at the inguinal ring. He deprecates the use of a truss after the operation, unless symptoms of recurrence appear.

THE SENSE AND SENSES OF ANIMALS.—Sir John Lubbock recently devoted a lecture to this subject in Green Street Hall, Edinburgh, and pointed out that the dog was generally admitted to be a loyal, true and affectionate friend of man ; but, when the nature of the animal was considered, our knowledge, he said, was very limited. This arose from the fact that attempts were made to teach animals rather than to learn from them. It had occurred to him that some such method as that which was followed in the case of deaf mutes might prove instructive if adapted to the case of dogs. He had tried, with a black poodle belonging to himself, and had made the following experiments : "He had taken two pieces of card, one blank and the other with the word 'food' upon it ; he had put the latter on a saucer containing some bread and milk, and the blank card he put on an empty saucer. The dog was not allowed to eat until he brought the proper card to him. This experiment was repeated over and over again, and in about ten days the dog began to distinguish the card with the letters on it from the plain card. It took a longer time to make the dog realize the difference between different words. In order to try to discover whether the dog could distinguish colors, he prepared six cards, marking two of them blue, two yellow and two orange. He put one of each on the floor, and tried to get the dog to bring to him a card with the same color as one which he showed the dog in his hand. After trying this for three months, he found that his experiment in this direction was a failure." Sir John Lubbock proceeded to state that he considered it doubtful whether ants could hear or not, but that it was possible that both they and bees might hear sounds so shrill as to make no impression on the human organ of hearing ; and so perhaps with colors. The world might, to insects, be full of music which we could not hear, colors which we could not see, and sensations which we could not feel.—*Lancet*, Dec. 31, 1887.

BENZOATE OF SODIUM IN ACUTE FOLLICULAR TONSILLITIS.—L. C. Boisliniere, Jr., in a communication to the *St. Louis Courier of Medicine*, February, 1888, says that in upward of one hundred cases of acute follicular tonsillitis, the following formula has been used :

Sodii benzoat, - - - - - - ʒi-iv.
Glycerini,
Elix. calisayæ, - - - - - āā f℥j.
M.
Sig.—One teaspoonful every one or two hours.

In the analysis of the last seventy-five cases, he finds that: 1. By the use of benzoate of sodium the disease is cured in from twelve to thirty-six hours, a great gain in time, as the average duration of the disease has been heretofore from two to five days. The average duration for the seventy-five cases was twenty hours. In private practice, when the cases could be watched more carefully, the white, cheesy points have been frequently seen to disappear in from eight to ten hours. 2. The benzoate of sodium undoubtedly controls the febrile elements in the disease. 3. It may be given with impunity, even to children; he has never been able to discover any bad or even disagreeable effects from its action. 4. It is a valuable addition to the remedies used in throat affections, especially in an acute inflammatory condition of the tonsils, when applications only aggravate, and gargles increase the trouble.

MR. JONATHAN HUTCHINSON, (in the *British Medical Journal,* January 21, 1888,) makes the following resumé of his Harverian lectures on Lupus.

For purposes of clinical convenience I would arrange the cases of lupus erythematosus proper into groups; first of those in which the disease was restricted to the face and head; secondly, those in which the hands as well as the face were affected; thirdly, those in which the disease showed a tendency to become general, that is to extend to neck, shoulders, upper arms, and possibly to the trunk; also, fourthly, those in which erysipelas had repeatedly occurred. In our last lecture I spoke of the great danger which attaches to lupus erythematosus in its typical forms, and especially of the risk of a fatal attack of erysipelas. Kaposi's testimony on this point is very strong; indeed, he would appear to have met with erysipelas very frequently, and speaks of an "erysipelas perstans faciei," with which I am not familiar. The circumstance that he drew from the experience of a large hospital in which the patients remained for long periods, whereas my cases have been chiefly observed in private practice, may explain some discrepancies. He would be likely to encounter more serious complications than have fallen to my lot. The best published portrait of a purely erythema lupus with which I am acquainted is that in the New Sydenham Society's *Atlas;* one published at the Hôpital St. Louis in Paris, and designated scrofulide erythematose, is also excellent, and has the merit of being a photograph. Those given by Hebra show the sebaceous and mixed forms only.

I have yet two topics to which I must advert before I conclude. I refer to the simulations of lupus by syphilis, and the association of lupus with cancer.

A large number of the diseases of the skin in the later periods of syphilis are lupoid in character. By that statement it is meant that they occur without symmetry, that they are infective and serpiginous, and that they leave scars. In these features they differ wholly from the eruptions of the secondary period, which are symmetrical and exanthematous and show no tendency to infective spreading. A syphilitic lupus, like other forms of lupus, may spread indefinitely, and may last for years; indeed, unless cured by treatment, it will as a rule never get well. We occasionally see very severe secondary eruptions, especially those of the rupia class, gradually slide when nearly cured into lupoid peculiarities, that is, some of the patches may take on serpiginous spreading. As a rule, however, syphilitic lupus is decidedly late (that is, tertiary) in its appearance. It may simulate any of the known varieties of lupus, and the closeness of the resemblance may be most deceptive. I cannot see that anything is gained by disuse of the term lupus in connection with syphilis. If instead of it we employ such terms as horse-shoe sores, serpiginous ulceration, and the like, we lose in clearness of meaning and do not gain in anything.

Many observers have recorded cases in which cancer has developed in lupus patches, either whilst the disease was still extant or after cicatrisation had taken place. I have shown you a portrait from a case of my own in which this took place in a partially cured lupus, and several others have fallen under my notice. In three or four cases I have seen lupus and cancer in the same patient independently of each other, and on more or less distant parts. Thus it would appear that not only is the scar tissue of lupus prone to be attacked, but probably there is something in the patient's state which gives proclivity to both. The form of cancer is epithelial, but very malignant. It reappears usually very quickly after excision, and advances very rapidly. It is often attended by large fungating granulationmasses, exactly such as are seen in the cancer which follows the ulcerations of Kaposi's disease. A very important addition to our knowledge of cancer in this relation has been made since these lectures were commenced. I have only to-day obtained a copy of a very able paper on Lupus-Carcinoma by Dr. Bayla, of Tübingen, published in Brun's *Beiträge*. He has collected no fewer than forty-two cases, and in one of them it began as early as the twenty-sixth year. The paper will illustrate what I have just said as to the noteworthy tendency tofungate.

In conclusion, Mr. President and gentlemen, permit me to recapitulate shortly the main arguments of my lectures. It has been sought to show that there are a large number of maladies, some of them it is to be admitted very rare, but yet of extreme interest, which are cognate with common lupus, and that between common lupus and lupus erythematosus there are bonds of essential relationship, whether we regard their clinical features or their histological characters. Next, it has been made probable that all forms of lupus are in occasional relationship with the state of health which gives liability to tuberculosis and to diseases of the scrofulous class; but in limitation of this it has also been proved that many lupus patients are in excellent health, and that there appears to be some proneness to cancer as well as to tubercle. That lupus begins as an inflammation under the influence of various exciting causes and derives its peculiarities from the part affected, and the special structures in that part, as well as from the age and proclivities of the patient, has also been asserted. Thus it has been sought to discredit the supposition that lupus, or any of its peculiar forms, deserves such terms as *sui generis*, the implied creed being that they are closely related amongst themselves, and also to other various pathological processes. The doctrines of infective spreading and system-contagion have been asserted as being explanatory of the phenomena of lupus, and as finding in it some of their best illustrations. The laws of hybridity and those of partnership in disease have also been appealed to, as well as those of modification in hereditary transmission, under which latter it has been attempted to establish the pedigree of the very remarkable malady known as Kaposi's disease.

I much regret that I have not had time to say anything in reference to treatment, since I might have drawn from it very important evidence in support of the conclusions placed before you. This, however, must be reserved for another occasion.

In reference to the introduction of not a few new names, and the alteration of some old ones, I am well aware that I have laid myself open to criticism, and that I have taken on me grave responsibility. My innovations in these matters, however, I willingly leave to the judgment of others. If found useful they will live, if otherwise, let them die. I can only assure you that I have done nothing from caprice, but that I have honestly endeavored, as far as my ability admitted, to make clear a very intricate subject, and to lighten the labors of those who will follow me.

SURGICAL TREATMENT OF DEEP-SEATED PERIRECTAL ABSCESS.—In Bruns's *Beiträge zur Klin. Chir.*, Band iii., Heft 2, Dr. Heinrich Zeller, of Tübingen, argues that perineal incision is the most rational and the most proper method of opening a perirectal abscess, situated above the levatores anni and coccygei muscles, and presenting a prominence and fluctuation within the rectum, without forming any appreciable projection on the surface of the perineum. The perineal has, it is urged, many advantages over the rectal incision. The former permits a strict application of the antiseptic method, which, if the abscess be opened by the rectum, must be practiced under very unfavorable conditions. In the perineal incision, the abscess is opened at its deepest part, and so a free and ready discharge of the pus is favored. The opening in the perineum can always be made to a sufficient extent, whilst when made in the rectum, it will necessarily be limited on account of the risk of bleeding, and therefore is liable to be insufficient for the purpose of draining the abscess. The perineal incision guards against further rupture of the abscess in other directions, and, should an urethro-perineal fistula be formed, this can be more easily dealt with than an urethro-rectal fistula. Moreover, the perineal incision has the important advantage of preventing a communication between the abscess and the interior of the intestine. In this contribution reference is made to seven previously-recorded cases of perineal incision of deep perirectal abscess, and reports are given of three recent instances of similar treatment in the practice of Bruns. In those ten cases the patients all recovered. In four cases urethro-perineal fistula had formed in consequence of rupture of the abscess into the urethra, before the perineal incision had been made. In each of these instances the fistula retarded the healing of the abscess, but at last was completely closed. In not a single case was the incision into the perineum followed by rupture of the abscess in any other direction. Of the subjects of thirteen collected cases, in which the deep abscess was opened by the rectum, two died—one from purulent infection, the other from perforative peritonitis. The perineal incision has been made, in some cases, in the middle line of the perineum, or in a line parallel to this; in others, in the line of the incision for lateral lithotomy; but, as a rule, its situation should correspond with that of the abscess. After the skin has been divided, the surgeon should make his way to the abscess, more by the way of blunt instruments than of the knife, and every bleeding vessel must be secured. The depth of the wound, when the abscess has been reached, varies very much in different cases. In each of the three cases reported by the author, it was about four inches; in some cases, especially when the abscess has descended, it is much less. If the diaphragm of the pelvis, formed by the levatores ani and the coccygei, has not been perforated, the surgeon must work to a depth of at least one inch and a quarter. If the abscess be large, it will usually be opened without any difficulty. If the incision be made at an early stage, and when the collection is small, the operation may be facilitated by the introduction of the forefinger of the surgeon's left hand into the rectum, so as to press down the abscess toward the surface of the perineum, care being taken not to carry the knife too near to the gut. The relative position of the urethra to the abscess, may be indicated by passing a catheter. After the discharge of the purulent contents, the surgeon should pass his finger into the cavity of the abscess, in order to search for any secondary cavities or prolongations. The cavity should then be washed out with some antiseptic fluid, and, after the introduction of a drain-tube, the seat of the operation should be carefully covered by a dressing of iodoform gauze.

HYSTERIA AND SYPHILIS.—In a lecture at the Hospice de la Salpètrière, Charcot stated that the more profound our knowledge of hysteria, the more we find justified the term "neuromimetic," applied to this neurosis by Sir James Paget, the eminent English surgeon. Its determinations upon the cerebro-spinal system are so varied that they can lead into error an observer inexperienced in the matter, especially in the particular cases in which the disease seems to produce its effects under the influence of an anterior or intercurrent affection. So we must recognize the fact that hysteria often remains latent, and only waits an occasion to manifest itself. This occasion is frequently furnished by some infectious disease, such as pneumonia and typhoid fever; by some intoxications, as alcoholism, saturnism or mercurialism; by some traumatisms, as was formerly pointed out by Benj. Brodie, and has more recently been demonstrated by Charcot. And finally, it may be occasioned, as in the present case, by syphilis. From the fact saturnism has been the means of bringing the hysteria to light, ought we to believe that we have to do with saturnine hysteria? Certainly not; for hysteria from lead is the same as alcoholic hysteria, or hysteria from a neuropathic, non-toxic cause. Lead intervenes as an exciting cause and nothing more; and if the intoxication can sometimes, as we have seen, determine the form and the seat of manifestation of the hysteria, it does not change its nature, being similar, in that respect, to a traumatism which, from whence soever it comes, and whatever its nature may be, always intervenes in the same way. Ten persons will be simultaneously struck a violent blow upon the shoulder, but only one of them will have an hysterical monoplegia, because he alone is susceptible of hysteria; in the same way as an alcoholic, or one suffering from lead poisoning, among the ten, for example, may present some convulsive symptoms upon the occasion of an excess of of drink, or from the absorption of a more considerable dose of the poison. But the hysteria of all three, from traumatism, lead, or from alcohol, will remain identically the same; only the localization may, perhaps, differ, and the form of certain seizures will sufficiently mark and limit the part from the rest to make it proper to use in the symptomatology of the hysteria the influence of the exciting cause.

The patient presented by M. Charcot to illustrate this lecture was a man twenty-eight years old, who contracted syphilis when eighteen, and took very bad care of it. On January 1, 1884, on entering his house, he fell suddenly and was unconscious. When he came to himself, it was found that he was attacked with hemiplegia and right hemianæsthesia, with contracture not only of the muscles of the arm and of the leg, but also of the tongue, the point of which was bent around and forcibly applied against the right molars. Some days later nocturnal headaches appeared, which radiated into the neighboring parts; and a little later convulsions, epileptiform in character. Of course, mercury and the iodides were largely employed, but if the paralysis seemed to grow better, it never was completely cured, but was interrupted by two other attacks of an apoplectiform character; nor did the headaches cease, but still persist to-day with their nocturnal character.

Charcot has remarked that the hemiplegia in these cases, besides being marked by a very decided diminution of the muscular sense, is accompanied with complete hemianæsthesia, a rare phenomenon in organic lesions, a point for which new observations recently reported by M. Ferrier to the Society of Medicine of London, and followed by autopsy, can be considered as a truly good fortune. Moreover the phenomena which were observed on the part of the tongue were spasmodic, not paralytic in character, and are referable to the hysterical glosso-labial paralysis recently described by him; and the convulsive crises, occurring between times, present to the attentive and experienced eye, the characteristics of hysterical attacks in man.—*Progrès Médical,* Dec. 18, 1887.

CONTRAINDICATIONS AND DANGERS OF ANTIPYRIN.—Of the numerous recent additions to our materia medica, antipyrin appears to have come into most general use, and to have a very wide range of usefulness. But its administration appears, upon further study, to be not without contraindications and dangers. Eloy, in the *Revue Générale de Clinique et de Thérapeutique* of March 1, 1888, points out that a large number of ailments are frequently produced by it, particularly if given for any length of time.

He quotes Guttmann, Falkenheim, Alexander, and others, in support of his statement that nausea, vomiting, and gastro-intestinal disorders may result from its use. Beside these symptoms, he records instances where syncope has occurred under its employment, and Bentzeff is quoted as believing that the drug always produces such a tendency. He asserts that, in the opinion of Moncovor, Dujardin-Beaumetz, and several others, the secretion of urine is seriously modified, and one of his references is stated to have put it that "antipyrin closes or shuts up the kidneys."

Going still further, Eloy calls attention to the case of Dr. Barr, which is recorded in the *Lancet* of February 25, 1885; in which collapse and death followed the ingestion of from fifteen to thirty grains of antipyrin in two doses. In a case of puerperal fever, antipyrin caused a fall of over two and a half degrees Centigrade, with vomiting and diarrhœa. Rigors now came on, the extremities became lived, and in thirty-two hours the patient died in syncope. At the autopsy the spleen was found contracted, the kidneys were shrunken, and contained infarcts. A large number of instances were also collected, in which antipyrin has apparently, in the minds of the recorders, produced disorders so varied and so different from one another that it is scarcely possible for them all to be produced by the same drug.

It appears to us that Eloy is not justified by the facts he cites in reaching the conclusions as to the dangers of the drug which he sets forth. In the case of puerperal fever to which he alludes, nothing occurred which warrants the attributing of the fatal termination to the use of antipyrin, and the post-mortem lesions indeed point to the disease itself as the cause of death, without any aid from the drug.

We think it but a fair conclusion that antipyrin is in no sense a dangerous remedy, and that as yet there are no cases in which death can be attributed directly to its use. All untoward symptoms, clearly produced by any drug, should be reported, but at present the tendency seems to exist of reporting any unforseen turn in a case as the effect of the drug last administered. Undoubtedly the differentiation is at times difficult, as to whether the symptoms are of the illness of the drug, but every disease runs at times such an irregular course that the careful clinician thinks twice before charging a drug with a change which his own foresight or care might have averted, or at least expected.

OBITUARY.

Cornelius Rea Agnew.

The great eye and ear specialist, Dr. Cornelius Rea Agnew, died April 18, 1888. He has been suffering from a malignant attack of peritonitis for some time, and his death was expected.

Nearly a week ago the operation of laparotomy was performed upon Dr. Agnew. He never rallied; and although his mind remained perfectly clear to the last, his physicians had practically abandoned hope several days ago. On the morning of the 18th of April there was a perceptible decrease of the vital powers, although consciousness remained. He lingered till afternoon, and died surrounded by his family, passing away without pain.

Cornelius Rea Agnew was born in this city, August 8, 1830. His early education was received in private schools, and in 1845, being then but fifteen years old, he entered Columbia College, and after pursuing the usual course, was graduated in 1849. He began the study of medicine under Dr. J. Kearney Rogers, for many years Surgeon to the New York Hospital, and also to the New York Eye Infirmary. He was also Professor of Anatomy in the old College of Physicians and Surgeons.

Young Agnew attended the regular course in the College of Physicians and Surgeons, and while pursuing his studies entered the New York Hospital as a "junior walker," as the position was then called. Shortly after he received the appointment of "senior walker." In 1852 he graduated, and passed the following year as House Surgeon in the New York Hospital, of which he became also Curator. In 1854 he went to a small settlement on the shores of Lake Superior, and began practice. After an absence of a year he returned to this city, having received, unsolicited, the appointment of Surgeon to the Eye and Ear Infirmary.

He went to Europe to complete his studies, to comply with the conditions of the appointment. In Dublin he became a resident pupil of the Lying-in Asylum, and also attended the clinics of the famous William Wilde, afterward Sir William Wilde,* at St. Mark's Eye and Ear Hospital in that city. Subsequently he visited London and walked the hospitals of that city, observing the practice of such distinguished physicians as William Bowman and George Critchett, and attending the clinical lectures of William Ferguson. He next visited Paris, where he observed the practice of Velpeau and Ricord in diseases of the eye, and Hardy in skin diseases. Upon his return to America in 1855 he established himself in this city as a general practitioner.

In 1856 Dr. Agnew married Miss Mary Nash, daughter of Lora Nash, then a well-known merchant in this city. Dr. Agnew held the position of Surgeon to the Eye and Ear Infirmary till April, 1864, when his duties on the United States Sanitary Commission compelled him to resign rather than impose additional labors upon his colleagues in that institution. He was appointed Surgeon-General of the State of New York by Governor E. D. Morgan.

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* Father of Oscar Wilde, of æsthetic fame.

In 1866 Dr. Agnew established in the College of Physicians and Surgeons an ophthalmic clinic, having been asked by the Faculty to do so. In 1869 he was elected Clinical Professor of Diseases of the Eye and Ear, a position he held up to the time of his death. In 1868 he established the Brooklyn Eye and Ear Hospital, and in 1869 the Manhattan Eye and Ear Hospital of this city. In 1865 he was appointed one of the managers of the State Hospital for the Insane at Poughkeepsie. He was twice reappointed, and held from the inception of the undertaking the secretaryship of its Executive Committee.

His philanthropic and energetic spirit found its exercise in a wide field of usefulness. The educational institutions of the city and State received a share of Dr. Agnew's attention. In 1859 he was elected one of the trustees of the public schools of this city, and was subsequently chosen President of the Board. In 1864 he was chosen one of the associate trustees to organize a School of Mines in Columbia College, and in February, 1874, was made one of the trustees of the college. He was secretary of the first society organized in this city for sanitary reform, and a member of the committee that prepared the first draft of the city's health laws. Dr. Agnew was also for many years a member of the Century Club. In 1872 he was chosen President of the State Medical Society. He was also a member of the medical societies of many of the great cities of the world. During the administration of President Arthur he was appointed Indian Commissioner, and his report on the tribes in the Southwest had the effect of improving the condition of the red men.

As a lecturer Dr. Agnew was fluent and practical, and as an ophthalmologist he was known throughout the world. He contributed many useful articles to current medical literature. During the later years of his life he was considered an authority by the medical profession on the treatment of eye and ear diseases.

Dr. Agnew's death is a public calamity, felt to be so in every class of society. He was a blessing alike to the learned and the unlettered, the profession and the laity, to the citizens of New York and to the country at large. Pure, noble, and honorable, his leisure hours were devoted to deeds of kindness, many of which were in connection with his scientific work; and it was in this way that he became personally endeared to such a large class of people, and that his death brings personal sorrow to the hearts of unknown numbers.

NEW BOOKS AND PAMPHLETS.

A Practical Treatise on Diseases of the Skin.—By Jno. V. Shoemaker, A.M., M.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital, Philadelphia, etc. With Colored Plates and Other Illustrations. New York: D. Appleton & Co. 1888.

The best evidence that diseases of the skin are attaining a position of especial interest to medical men is the fact that within the past eighteen months more than a dozen books have been issued on this subject by the several publishers of this and foreign countries. Whether each publisher is trying to present a popular treatise on this subject of ever-increasing interest, or whether each man who has made a special effort in this field, feels called upon to present to the profession his personal experiences, is a nice point to decide among the factors potent in producing the result to which we have alluded.

Just what differences and points of excellence we have a right to expect when a new book is presented on a subject which has already been exhaustively treated, are also to be decided largely by personal preferences, and in accordance with one's education and training. It seems to us, however, that unless there is some marked evidence of superiority either in classification, arrangement, treatment, or style, or unless a subject has made such strides as to warrant an entire revision of the old ground, and a restatement in clear terms of disputed points, that new books are not especially commendable.

The present volume, while it is a complete and full treatise on the subject of skin diseases, does not, we think, show any decided originality in any of the lines indicated; indeed, the author says: "All that I claim in it as especially original is a statement of the relative effects and values of numerous agents tested in my own many years of clinical experience in the treatment of skin diseases." So much then for the necessity of the book; but we must consider the work itself.

In Part I. the author, under the head of General Considerations, states briefly and accurately, anatomy, physiology, symptomatology, diagnosis, pathology, etiology, treatment, and prognosis. We are inclined to think that a cut would have aided the student in the appreciation of the Pacinian and Touch corpuscles. On p. 1 we find *labia majoræ, labiæ;* on p. 6 *labiæ majoræ;* and elsewhere the correct form, *labia majora.* And while we are considering mistakes in Latin, it may be well to call attention to *per orem* (p. 178), *ter diem* (p. 118). Why hæmatidrosis should be called sudor sanguin*ea*, when sudor is masculine, is rather incomprehensible, although Duhring, and perhaps others, say the same thing.

On p. 66 the author recommends for an alkaline bath two to ten ounces of bicarbonate of sodium, which is, we think, a very moderate allowance for thirty gallons of water.

The classification of skin diseases could have been worked out in more pleasing detail. Indeed, it is here where every author feels compelled to differ from every other writer, and to give his own improved modification of Hebra's classification. If there were more unanimity on this point, we doubt not that skin diseases would rest on a surer foundation.

None of the authors on skin diseases, as far as we have been able to consult them, give the differential diagnosis between seborrhœa and favus, and yet we have seen one of the best dermatologists in this city order a microscopic examination of the hair in order to settle the point.

The definitions are not always satisfactorily given; *e. g.*, "Milium consists in the development of small, round, whitish *formations*, located beneath and covered by the epidermis." Or this: "Carcinoma cutis is a malignant disease characterized by the formation and deposition of *carcinomatous material* in the skin and subcutaneous connective tissue," and so that of sarcoma and others. We do not see that there is any explication of the concept sarcoma to say that it is characterized by sarcomatous new growths; nor of carcinoma to say that it is characterized by the formation and deposition of carcinomatous material. However, we are willing to admit that definition is no easy matter, and every one is familiar with the truth of the saying that "perfect definition is the summit of human knowledge in every part of science."

As a general thing, the differential diagnosis is quite satisfactorily stated; but if the author thinks that "the diagnosis of measles is comparatively easy," we are forced to believe that he has been exceedingly fortunate in his cases. The writer on this subject in Pepper's system says: "Even with careful observation of all the specific differences between the diseases (measles and variola), they may, for a brief time, so resemble each other as to defy the skill of the expert." The author also thinks it unnecessary to even state that measles has to be differentiated from scarlatina, varicella, and erythematous syphilide.

In giving the treatment of erysipelas, we are surprised to find no mention of hot bichloride dressings, a form of treatment which, in connection with quinine and tincture of chloride of iron, is exclusively used at one of the large erysipelas pavilions in this city.

We agree thoroughly with the author in his use of the word hypodermatic, and only regret that he should have also used hypodermic.

Syphilis is especially well treated, the lesions being stated with marked clearness, and the treatment given at length. We do not think, though, that it is necessary to consider it in more than three stages.

The same remark will apply to the consideration of eczema; but we think the author a little inconsistent when, on p. 261, he says: "The appearance of this discharge is not, as was formerly held, the diagnostic feature of eczema." While on p. 271 he says: "This peculiar protean disease, while appearing under such varying forms, has some main features which are *invariably* present, and may be alluded to as follows: Redness and itching, etc.; infiltration and thickening, etc. ; finally, the continuous exudation of fluid or plastic material is another characteristic feature of eczema."

The author's condemnation of depillatories meets with our hearty approval. Alopecia is treated in an interesting manner, and in detail not disproportionate to the interest of the subject. The views on Lepra are not so broad as the literature on the subject would warrant.

A feature which would be an addition to any of the treatises on skin and other diseases is a statement of the derivation of the words. It would, besides impressing the name upon the mind of the student, give him at once a clue to the subject. It may be argued *per contra* that the dictionary is the place for such things, to which we accord a hearty dissent, if the dictionary is to exclude such information from other books. And in conclusion, we may say that this book must take its place with those which give a clear, concise, and full statement of the subject of skin diseases, and that its chief claim for popularity will undoubtedly rest on the care and conscientiousness with which the author states the *treatment* of skin diseases, even though he treads a lonely path in some of his uses of sulphur and the non-use (if we may coin the term) of arsenic. The formulary is a useful *resumé* of the prescriptions given in the body of the text.

A PRACTICAL TREATISE ON DISEASES OF THE EYE. By Dr. Edouard Meyer, Prof. à l'Ecole Pratique de la Faculté de Médecine de Paris, Chevalier of the Legion of Honor, etc. Translated, with the Assistance of the Author, from the Third French Edition, with Additions as Contained in the Fourth German Edition, by Freeland Fergus, M.B., Ophthalmic Surgeon, Glasgow Royal Infirmary; Assistant Surgeon, Glasgow Eye Infirmary. With Two Hundred and Sixty-seven Illustrations and Three Colored Plates. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St. 1887. Price, $4.50.

In revising the present work, we take it to be beyond the requirements to go into an analytical statement of its contents and a detailed consideration of the same. It is unnecessary, and we hear some reader ask, why? To this we have a ready reply: In an American edition of a work which has gone through three French and four German editions, and has been translated into Italian, Spanish, Polish, Russian, and Japanese, the task which naturally presents itself to the reviewer is to discover the source of such unusual popularity; to lay before those who have not seen the work what seems to be the basis on which its claims rest for such an unusual recognition of its merit. To this task we have applied ourselves with diligence, and reasonably hope that we have discovered some of the points which justify the stand it has taken.

Foremost among these, we would call attention to the fact that it is eminently *practical*, and in so far rightly deserves its name. Not to take up more demonstrations of this, though every page bristles with them, we will quote the following, premising with the remark that but few authors would deem it necessary to give such minute directions in what seems at first glance such an easy matter: "To examine the anterior part of the eyeball," our author says ("And who can't do so," we hear some wiseacre exclaim, "without any instructions?"), "we must uncover it by separating the lids." ("How simple!" another cries out.) "In these difficult cases of children the surgeon should be seated in a chair, with a towel spread over his knees. To his left and a little in front of him should be seated on another chair his assistant, holding the child in such a manner that its head may rest on the knees of the surgeon. who can thus fix it firmly. Whilst the assistant keeps the child still, the surgeon separates the lids with his fingers, as already described, and keeps the eye open by holding the margins of the lids with his index finger and thumb against the orbital edges. When the lids are inverted so that the eye is hidden, he may advantageously use small metal, or better still, tortoise-shell, elevators."

Or thus, in speaking of inunctions (and some one interposes, "What has an oculist to do with inunctions?"): "These inunctions" (in exudation and syphilitic ophthalmiæ) "are made with one or two grammes (fifteen or thirty grains) of the mercurial ointment (a mixture of the simple and compound ointments in the proportion of three to one), care being taken to wash the parts with soap before applying it. On the first day the ointment is rubbed into the calves of the legs and the flexures of the knees; on the second into theinternal surfaces of the thighs; on the third into the abdomen and chest; on the fourth into the inner sides of the arms; and the process is repeated in the same order, always avoiding those regions which are covered with hair," etc.

Next we would note the fact that it is *thorough*, and it is not necessary to more than call the attention of our reader to the quotations just made, though we could mention innumerable others; and in this thoroughness and lack of fear about telling the reader something he once knew and has forgotten, or never knew and ought to know, or knows in an indefinite way and needs an exact restatement, do we find an important element, we think, in its success. Again, it is *scientific*, but not, as so many books are, just too scientific to be of any value to a man of fair intelligence and of average—yes, even above the average—education. This is nowhere better demonstrated in the book than in the discussion of the anomalies of refraction and of accommodation, and their treatment.

And, lastly, it is *complete*, containing more than the general practitioner can desire, and all that the specialist can require.

Then some one will ask: "Is it perfect?" No, it is not perfect. There are many times when we could take issue with the author as regards treatment; sometimes we do not agree with him entirely in the pathology; and sometimes we find a more favorable prognosis than the results of even the treatment he recommends would justify; but we can say that it is an admirable book, and one as well suited to the wants of the profession as any in its line.

DISEASES OF THE HEART AND CIRCULATION IN INFANCY AND ADOLESCENCE. By John M. Keating, M.D., Obstetrician to the Philadelphia Hospital, and Lecturer on Diseases of Women and Children, and William A. Edwards, M.D., Instructer in Clinical Medicine, and Physician to the Medical Dispensary in the University of Pennsylvania, etc. Illustrated with Photographs and Wood Engravings. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1888. Price, $1.50.

The authors, in the book whose title we have just given, claim that "the work now presented by us is the only systematic attempt that has been made to collect in book form the abundant material which is scattered throughout medical literature in the form of journal articles, clinical lectures, theses, and reports to societies." The work has already been published in instalments in the "Archives of Pediatrics." Chapter I. considers the method of study, instruments, fœtal circulation, congenital diseases of the heart, malformations, and cyanosis. Not to take up each of these in turn, as it is unnecessary, we can unhesitatingly say that we have never seen a more concise and interesting presentation of the subject of congenital diseases and of malformations. Chapter II. considers acute and chronic endocarditis and ulcerative endocarditis. The subjects are well considered, and, while there is nothing especially to be noted as original, the best views of others are clearly stated. The same remark is applicable to the next two chapters—the one on pericarditis and the other on the treatment of endo- and pericarditis. And here we find also an interesting table of cases of paracentesis pericardii, and directions in regard to the operation. Myocarditis is next considered. Then follows an excellent chapter on valvular diseases of the heart, to which we have only this objection to make, viz.: That not sufficient attention is paid to *functional* murmurs and their differential diagnosis from organic murmurs. The treatment is well put, and the new drugs which have been used with such success receive their proper recognition. The following chapters consider aneurism, hypertrophy, and dilatation, cardiac neuroses, and diseases of the blood. We find nothing especially worthy of comment, but can say that they all receive a fair consideration. The most noticeable feature of the book is the fact that to the description of the diseases are added the autopsies illustrative. Altogether the book is a decided contribution and advantageous supplement to the regular treatises on children's diseases, notwithstanding the fact that it frequently goes beyond this field.

VEST POCKET ANATOMIST. By C. Henri Leonard, A.M., M.D. Illustrated Medical News.

This little book of more than one hundred and fifty pages contains many useful points in a small compass, and will be an invaluable aid to the student in the dissecting room, and to the practitioner who wishes to refresh his memory upon anatomical relations in a short time. The dissecting "hints" are concise, and at the same time fully cover all necessary ground. The divisions are after Gray. Unlike Gray, however, and I think very wisely, he starts with a description of the muscles, giving their origin in section, action, and nervous supply. He then gives the blood and nervous supply of each region just after the description of the muscles. The origin and course of arteries, veins, and nerves, and their distribution, are given. His description of the arterial and nervous supply of the body is full, clear, and concise. In osteology he names the points of importance, shape, articulations, and attachment of muscles. After osteology is given the action of muscles. Even if there was nothing but his triangles and spaces, still the book would be invaluable to the student. In his gynæcological section he gives the muscles of the female perineum, arterial and nervous supply of the female genitals. In the "points worth remembering" are many useful enough to justify the title. He makes a mistake in not considering the viscera and brain, the latter generally being the hardest subject in the study of anatomy. In the present day, with the great strides surgery has made, the relation of the abdominal viscera is as important, if not more so, than the subjects he has given. No one could go amiss in purchasing the book ; and to the student it is almost indispensable.

MODERN TREATMENT OF HEADACHES. By Allan McLane Hamilton, M.D. Detroit, Mich: Geo. S. Davis. 1888.

This is another one of the "Physician's Leisure Library Series," of which series we had occasion to speak in our March issue. The author classifies headaches as follows: Congestive, anæmic, organic, toxic, neuralgic, and neurasthenic. We have only this to say about the book: That we were charmed with it, and that no practitioner could regret the time spent in reading it. Some may argue that the author is presuming to write on a symptom, not a disease ; to which, in reply, we have only to say that it is such an important symptom that no physician can afford to be without the knowledge necessary to its alleviation or cure. The errors, here and there, in the Latin of the prescriptions, are due, perhaps, to careless proof-reading, and do not invalidate the value of the proposed remedies.

THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS, INCLUDING SYPHILIS. By E. L. Keyes, A.M., M.D., Professor of Genito-Urinary Surgery, Syphilology, and Dermatology, in Bellevue Hospital Medical College. A Revision of Van Buren & Keyes's Text-Book upon the Same Subjects. New York: D. Appleton & Co. 1888.

[Review in next issue.]

DISEASES OF WOMEN MEDICAL AND SURGICAL. By W. H. Byford, A.M., M.D., and Henry T. Byford, M.D. Publishers, P. Blakiston Son & Co. Has been received and will be reviewed next month.

We acknowledge the receipt of three journals devoted to the interest of good and wholesome food. The *Dietetic Gazette*, a journal of physiological medicine, edited by Dr. George B. Fowler, contains in the January number four original articles on the treatment of certain diseases by diet. We recognize in the list of contributors writers distinguished in branches of medicine that peculiarly fit them for such work. The *Dietetic Gazette* is an old friend under a new name. Dr. Fowler's own work in the direction of physiological medicine ensures for the journal the first element of success.

Table Talk, edited by Mrs. S. T. Rorer and Marion Harland, though not by virtue of title within the limits of medical science, is of interest to us from the fact that it gives valuable hints as to the kind of food most easily assimilable; a number of excellent suggestions as regards means, and, above all, directions for the preparation of food in the most palatable form. "Odd Edibles" contains curious information concerning things eaten in different parts of the world. We are hardly hypercritical when we opine that the information that "a puppy stew is a royal feast in Zealand" would not be an appetizer to those who read *Table Talk* at the table.

The *American Analyst and Practical Cook and Housekeeper*, a semimonthly journal of pure food, the suppression of adulteration. The title of this journal proclaims its mission and its scope. "Candy Making Hypocrites" in the February number is an article full of interest and alarming information concerning the adulteration of wholesale wares. We wish the *American Analyst* success in its laudable undertaking.

"Operation for Mastoid Disease." By Seth S. Bishop, M.D.

"Treatment of Chronic Suppurative Otilis Media." By Seth S. Bishop, M.D.

"Diptosia from Short or Coiled Funis and its Treatment." By A. F. A. King, M.D., of Washington, D. C.

"Statistical Report of 5,700 cases of Ear Disease." By S. S. Bishop, M. D.

"A Treatise on Ophthalmic Lenses." By Charles F. Prentice. Published by James Prentice & Son.

"On the Treatment of Felon Without Incision." By T. Duncan Buckley, M. D.

"The Eye of the Adult Imbecile." By Charles A. Oliver, M.D.

"A Case of Gastrostomy for Cancer of the Œsophagus." By J. Collins Warren, M.D.

"Elementary Microscopical Technology." Part I. By Frank L. James, P.H.D., M.D., St. Louis.

"Oxygen as a Therapeutic Agent." By P. D. Rothwell, M. D., Denver, Colorado. W. W. Rea, Publisher.

"An Address at the Opening of the Memphis Medical College." By T. J. Crofford, M.D.

"Some Observations Upon Pelvic Abscesses." By Virgil I. Harden, M.D., Atlanta, Ga.

"Plant Chemistry." By Helen C. Des Abbots.

"Letter of A. Y. P. Garnett, M. D., In Reply To Henry I. Bowditch, M.D., of Boston, Mass."

"The National Sin of Literary Piracy." By Henry Van Dyke, D.D. Charles Scribner's Sons.

"The Nature of Contagion." By J. W. McLaughlin, M.D., Austin, Texas.

"Annual Report of the Superintendent of the North Carolina Insane Asylum." 1887.

"Treatment of Intermittent Fever." By Robert C. Kenner, A.M., M.D.

"Should Physicians be Pharmacists?" By Charles L. Mitchell, M.D.

PHARMACY AND THERAPEUTICS.

The Time for the Administration of Certain Medicines.—Iodine and the iodides should be given on an empty stomach. If given during digestion, the acids and starch alter and weaken their action. Acids, as a rule, should be given between meals; acids given before meals check the excessive secretion of the acids of the gastric juice. Irritating and poisonous drugs, such as salts of arsenic, copper, zinc, and iron, should be given directly after meals. Oxide and nitrate of silver should be given after the process of digestion is ended. If given during or close after meals, the chemicals destroy or impair their action. Potassium permanganate also should not be given until the process of digestion is ended, inasmuch as organic matter decomposes it and renders it inert. The active principle of the gastric juice is impaired and rendered inert by corrosive sublimate, tannin, and pure alcohol; hence they should be given at the close of digestion. Malt extracts, cod liver oil, the phosphates, etc., should be given with or directly after food.

Vegetable Remedies.—Mr. Huxley is credited with making a broad statement in relation to vegetable remedies, in which he appears to have boundless faith. He believes, we are told, that there exists somewhere in nature "a plant to yield a cure for every disease that flesh is heir to." This is a tremendous claim, but those who have made a study of medicinal properties in plants, who know to what extent we are already indebted to them for the most powerful drugs in our materia medica, will not receive the possibility with scorn, even though the name of this great scientist be retracted. The reaction that followed the abolition of "herb teas" and old wives' fomentations, rather tends to provoke a smile when individual research is suggested. We have thus far depended most largely upon the chance discoveries of travellers and experimenters, for which reason our knowledge of the world's medicinal flora is much more limited than it would otherwise have been. But recent pointers of science have somewhat altered the aspect of medical botanizing. Mr. Thomas Christy, of London, Fellow of the Linnæan Society, is completely imbued with the spirit of progress in this line, and has instituted researches in the most inaccessible parts of the earth. Agents of his—natives of distant countries, who are often women—are at work in their own forests and mountains, and have gained possession of the secrets of the medicine men of wild tribes wholly inaccessible to the European. These quests are in progress in India, Africa, Liberia, South America, and other countries, in some of which Mr. Christy has established medicinal gardens, where the experimental cultivation of valuable plants goes on. By this means he hopes to increase the number of plants available for commercial purposes, as many of those found to be most important are least available by reason of their scarcity. The cinchona tree, as cultivated in Java, has a greater medicinal yield than the same tree as it grows wild in South America. Mr. Christy has brought to London a plant yielding maté, or "Paraguay tea." which is unusually rich in theine, and has great restorative powers. He is also growing now, in his own hot-houses at Sydenham, thirty plants of different species of *strophanthus*. Kerpod, a remedy for chilblains, is also one of Mr. Christy's importations. He has also cultivated the alvelos, which is said to be very effective in skin diseases. Many other discoveries and modifications are the result of Mr. Christy's researches. The instigator of all this is a true apostle of science, and an enthusiast in plant chemistry. He places freely at the disposal of students in botany and pharmacy his valuable specimens, and, in every possible way, urges the importance of fresh investigation in the department of materia medica.

The possibilities of the future following of such a course must certainly involve great benefit to science, and therefore to humanity.—*Med. Register.*

THE ADMINISTRATION OF CHLORAL.—Battle's Bromidia is a clean and palatable compound of approved hypnotic principles. The proportion of bromide of potassium in its composition to the chloral could well be doubled for most of the purposes for which such a hypnotic combination is indicated. The directions accompanying this excellent hypnotic combination suggest a criticism. The injunction to not exceed three or four of the doses indicated in twenty-four hours, and to administer preferably during the evening or night-time, would avoid many of the evil results which follow the injudicious use of this and all similar narcotics.

Those of our readers who desire to use this compound in practice (and when its ingredients are indicated, no better mixture can be found) will find it gives much better satisfaction in states of mania and high cerebral excitement, in double the ordinary dose, at about nine o'clock P. M., or at an hour or two before the patient's ordinary time of going to sleep when well, adding thirty grains more of bromide of potassium, and plenty of peppermint or other aromatic water to protect the lips from being blistered by the chloral, as is liable to happen if chloral is not given well diluted. We write this prescription thus:

℞

Bromidiæ - - - - -	ʒii.
Kali bromidi - - - -	ʒss.
Syr. Tolu tar - - - - -	ʒiij.
Aq. Menth. Pip. qs. ft. - - - -	℥i.

Ft. haustus in aqua q. s. S. Give at eight or nine P. M., in plenty of water. Repeat once during the night, if necessary.

Fifteen grains of chloral given every hour, in cases of high maniacal excitement, may prove abortive, and the patient's blood may, at the end of five or six days, or even hours, of such treatment, become vitiated and depraved, the vital centres of the medulla weakened; and when, as sometimes happens, the attending physician, or another one called in, becomes desperate and gives a very large dose of chloral, no reaction follows the profound hypnotic impression, the cerebro-medullary centres being completely overwhelmed, and incapable of that physiological rest and rebound which should be the aim and result of all therapeutically induced slumber.

Fifteen grains of chloral in mania, as a general injunction, is bad. A full dose at the right time, when nature is likely to incline most readily to rest, and not more than once repeated, and without previous small, abortive, and of course damaging doses, is better. No experienced Alienist would stereotype such a direction for mania and states of high cerebral excitement.

We make these remarks because bromidia is a combination the profession does not wish to dispense with, and a good remedy may be put before the profession with bad directions.

The administration to epileptics of anything with chloral in it during the time when the patient is going about is also unscientific advice. The same criticism holds good in regard to nervousness and irritability in persons going about. It is dangerous to give chloral to persons who are not in bed, or going immediately to bed, to remain till the effects of the chloral pass off. If this danger is kept in mind, and chloral is only given to recumbent patients late in the day, in the evening or night-time, in a single, or at most a duplicated, dose, nicely adjusted to the demands of the case, no untoward result need ever follow its use.

We should never give chloral for headache or neuralgiæ in the daytime, unless the patient should be sadly in need of and ready to go eep.

Chloral imbecility may readily be induced by giving repeated small, ineffectual doses, and it requires large doses to prove effectual in great cerebral or sensori-motor nerve excitement, when the patient is sitting up or going about.—*Editorial, Alienist and Neurologist, January*, 1888.

FEMALE PHARMACISTS IN ITALY.—The minister of the Interior, of Italy, having had his attention called to the fact that about 3,500 places in the Kingdom have no pharmaceutical service, because young pharmacists refuse to go into the rural districts, has asked the Minister of public Instruction to admit women to the study of pharmacy. It is not asked that they be given the diploma of pharmaceutical chemist, but simply a certificate of ability to practice pharmacy. It is believed that this will prevent the great inconveniences of the illegal practice of pharmacy, and will provide pharmaceutical facilities for communities in need of them.

It is to be remembered that in Italy, as in other European countries, the drug stores are under government control and supervision—the druggist is a Government appointee, and one cannot own a drug store unless he is a pharmaceutical chemist and gets a government appointment. The number of druggists and drug stores is proportioned to the number of inhabitants, both in the cities and in the country, so that the druggist is sure of a legitimate trade, and does not have to eke out an existence by selling patent medicines, toilet articles, paints, kerosene oil, cigars and chewing gum. The people are likewise protected by Government supervision as to the purity of the drugs, and as to the competency of the druggist to prepare them.

This is a further illustration of the fact that while some of the European Governments may be "effete monarchies," as our newspapers are pleased to call them, they still act on that sound principle of common sense, that the health of the people is the nation's wealth.

EXTRACTS FROM A LETTER TO THE "PHILADELPHIA MEDICAL TIMES," DECEMBER 15, 1887. FROM DR. C. L. MITCHELL, OF PHILADELPHIA.—In regard to substitution and adulteration, it must be admitted that in numerous cases the charge is a true one, and the evil is of growing dimensions. With the reduction in the margin of profits, caused by the fierce business competition of the present day, comes the temptation to adulterate or substitue inferior quality. No condemnation can be too severe for the man who thus trifles with human life; and, if he cannot carry on his business honestly, he had better abandon it and seek some other occupation.

Again, the outcry is made that the physician is too apt to prescribe various remedies, more or less proprietary in character, put up by large manufacturing concerns and introduced by skilled advertising, and thus require the druggist to carry an endless variety of such articles in stock, many of which are seldom or only once called for, and thus remain a dead loss to the proprietor. But is the physician much to blame? True, he is sometimes imposed upon by the bland and suave canvasser, and the glowing printed endorsements of his professional brethren in favor of some new remedy. But when he sees remedies in convenient and compact shape, of appearance much more elegant than those he can procure from the corner druggist, and of at least equal efficacy, is it to be wondered that he should prefer X. Y. or Z.'s manufactures to the oftentime imperfectly prepared remedies of the pharmacopœia?

And why should the druggist complain? *As long as he keeps open store, he must submit to the unalterable law of traffic, namely, the needs of the customer are to be supplied.* He will buy Lubin's extracts for Miss Jones, and Alfred Wright's for Miss Brown. Why should he not keep Bromidia for Dr. A.? And Papine for Dr. B.? Although he makes a great outcry about being obliged to carry so much stock, he in reality does it to a very limited extent; and, outside of a few standard preparations, shifts the burden on his wholesale druggist, and lets him carry the supply for him. Nearly all the large manufacturers have established depots for their goods in the principal cities, and the druggist very rarely lays in a stock outside of his actual present need, unless he is sure of a steady sale. And let him remember, also, that if he does not keep what is called for, some one else will, and his customers will be sure to go where their needs receive best attention.

And here let a word be said for that much abused class, the modern manufacturers of pharmaceutical specialties. The medical and pharmaceutical profession owe to them a great debt. It is their industry and their capital which have developed the perfection of the coated-pill and the compressed tablet; the pancreatic ferment and the scale pepsin; the smooth and palatable cod-liver-oil emulsion; and the perfected extracts of malt. To their energy do we owe the modern methods of treating disease with pre-digested and concentrated foods—a plan which has been the means of prolonging many valuable lives. They have spread the name of American pharmacy over the entire globe, and established its supremacy against all competitors; therefore let them receive at least just recognition and honor for their labors.

MISCELLANEOUS.

A VERY interesting discussion has been going on before the London Epidemological Society as to the identity of a certain disease in cows (now known here as the Hendon cow disease) with scarlatina in human beings. Having been sent down to investigate a certain epidemic of scarlet fever, Dr. Power, one of the Medical Inspectors of the Local Government Board, traced the disease to milk supplied from a certain dairy, several of the cows at which were, or had been, suffering from a disease characterized by superficial ulceration of the teats and certain febrile symptoms. After an exhaustive examination, aided by Dr. Klein, who succeeded in identifying and cultivating a micrococcus identical with that found in the blood of human beings suffering from scarlatina, he felt authorized to declare that the disease in the cow was capable of conveying scarlatina to human beings, and that the inoculation of the virus of scarlet fever in the cow gave rise to precisely similar symptoms. More recently, Dr. Crookshank, the eminent bacteriologist, having made a careful inquiry, has come to a very different conclusion. It is true that he did not examine and report upon the same cows as those dealt with in Dr. Power's report, but he claims to have had under his observation cows suffering from the self-same disease, and that disease he maintains is the common or garden cow-pox. There the question remains for the present, since no one is in a position to act as umpire between two such distinguished authorities. We may be sure, however, that the matter will receive due attention with a view to its final settlement. It is a question involving many important interests, not only medical, but agricultural, and everybody will be glad to know what is really the case.—*Phil. Med. Register.*

INTUBATION OR TRACHEOTOMY?—The grave question now remains, when shall tubage be done and when tracheotomy performed?

1. All things being equal, I would always intubate where the patient is under three and a half years of age.

2. Between the ages of three and a half and five years, I would be regulated, of course, by individual circumstances, with a preference for tracheotomy.

3. Over five years of age I should perform tracheotomy.

4. In adults I would never tracheotomize, but willingly test intubation.

5. Among poor people, irrespective of age, I would always intubate. While it may sound harsh to draw such class distinction, good reasons are forthcoming. The general results of intubation are about equal to those of tracheotomy. Skilled attendance, such as is always required after tracheotomy, can only be procured for considerable purchasing power, and is in consequence only available where people have means. While the operator himself may be willing to give his own valuable time, he may owe to other patients attendance that may be of as much value to them as to the child operated upon.

6. Intubation should never be performed at any age, when there is a strong probability that the trachea is crowded with membrane.

7. Where skilled assistance cannot be obtained intubation should always be practised.—*Extract from paper read at International Congress by Dr. Max J. Stern.—Journal of Laryngology.*

MEDICAL NEWS AND NOTES

In persistent hæmorrhage from the nasal cavity, plugging the posterior nares should not be done until an attempt has been made to check the hæmorrhage by firmly grasping the nose with the finger and thumb, so as completely to prevent any air from passing through the cavity in the act of breathing. This simple means, if persistently tried, will, in many cases, arrest the bleeding.—*Hospital Gazette.*

A funny egg story comes from France. A young man residing at Chalons, lately bet that he would swallow a pigeon's egg without breaking the shell. He won his bet; the egg was swallowed without the breaking of the shell; but a few days afterward the young man experienced violent pains in the stomach, the said pains increasing so alarmingly that on the eighth day he called in the doctor, and confided to him the folly of which he had been guilty. The doctor administered a strong emetic, the result being that the egg came back; but, on falling to the ground, the shell broke, and, to the astonishment of the patient and those with him, out of the broken shell came a little pigeon, as lively and healthy as if it had been hatched in the usual way. So runs the story; and those who doubt are advised to go to Chalons and see the little pigeon and the young man for themselves.

Great are the wonders of the telephone. A physician reports to us that he was saved a two-mile ride through a driving storm the other night by having the patient, a child, brought to the instrument and held there until it coughed. He diagnosed false croup; prescribed two grains of turpeth mineral, and turned in for an undisturbed sleep during the remainder of the night. He found the patient in the morning doing nicely—under the care of another doctor.

The *British Medical Journal* mentions as an instance of the devotion of medical men to humanity, the case of Dr. Landon, a surgeon in the British army. Mortally wounded himself, and with the agonies of death closing in, he heard a wounded soldier shrieking from his sufferings. Forgetful of self he crept to where the man lay and gave him a hypodermic injection of morphine to relieve his distress, and giving it, died!

The Paris correspondent of the *New Orleans Medical Journal* writes that M. L. de Saint-Martin has made researches on the influence of anæsthetic sleep upon the activity of respiratory combustion. He declared that the results of these researches were in direct opposition with those arrived at by Paul Bert, who, in his *Lectures on the Respiration*, published in 1870, affirmed that during anæsthetic sleep produced by chloroform, the quantity of oxygen in the blood increases.

M. de Saint-Martin, by his recent experiments, showed that during anæsthesia the proportion of oxygen in the blood diminishes, while the proportion of carbonic acid increases. M. de Saint-Martin evidently ignores that P. Bert arrived at a similar conclusion by his later researches in 1885, and that he then asserted that the oxygen in the arterial blood diminishes progressively, while the carbonic acid increases during anæsthetic sleep produced by chloroform.

M. de Saint-Martin further described the different variations which occur in the quantity of carbonic acid expelled from the lungs during anæsthesia.

Paul Bert likewise gave a description of these variations in 1885, in which he showed that the quantity of carbonic acid produced diminishes progressively during anæsthesia, while the quantity of oxygen absorbed decreases in the same manner. He proved that the proportion of $\frac{CO_2,}{O,}$ (sic) gradually diminishes.

THE following is a good rule, laid down by Paget, for applying passive movement to stiff joints: "If the affected joint is at any one time of the day colder than the opposite (healthy) one, then you can use passive motion, and the more frequently the better.

THE LATEST THERAPEUTIC NOVELTY.—A case not less instructive than amusing, is, the London correspondent of the *Irish Times* says, about to come to legal issue in London before long. Not long ago a London doctor had on his list of patients a lady long suffering from an affection of the face and jaw, which baffled the arts of the faculty. She changed her residence from London to a provincial town, but kept herself in the hands of her London doctor by letter. Finding the ailment obstinate, and the patient somewhat hypochondrical, the doctor wrote in the end saying he had exhausted his resources, and adding his opinion that *Tempus edax rerum* was the only remedy. Straightway the lady hied herself off to a local chemist, and applied for the specific as set forth in the letter. The attendant, it will be contended, through deliberate dishonesty, made up a bottle for which he charged 7s. 6 d., and at the patient's request registered her name as a customer to whom the remedy was to be regularly supplied. She continued using and paying for the sham medicine for over a year and a half. Coming to London for the Jubilee, she chanced to meet her former doctor, who was astonished to find himself gratefully thanked for his invaluable prescription. He wrote at once for an explanation, and the next stage of the business began with the disappearance of the assistant, and the denial of any responsibility of the chemist; but, nevertheless, the case stands for trial. The plaintiff has, it seems, been an invalid from her twentieth year, and has paid for medicine alone over £2,000.

THE New York County Medical Society caused the arrest of an Italian shoemaker for practicing medicine without a diploma. At his trial the cobbler entered the plea that he had used no medicines, but simply used charms which had been taught him in Italy to cure people of witchcraft. His deluded countrymen had to pay roundly for his services whenever they went to him to have the spells of witchcraft lifted from them. He was fined fifty dollars, and he said, with a sigh, that he would hereafter "stick to his last."

AT a meeting of the Faculty of the Baltimore University of Medicine, held last Monday evening, Dr. J. W. Cuddy was elected Professor of Materia Medica, Therapeutics, and Clinical Medicine. Dr. Cuddy, who has been in active practice in the city of Baltimore for several years, received his degree of Doctor of Medicine from the University of Maryland, and his degree of Master of Arts from Calvert College, in the same State.

DRS. SAYRE AND LUSK, of New York, have been proposed as corresponding members of the Academie de Médecine de Paris.

THE DIFFICULTIES OF MEDICAL JOURNALISM IN RUSSIA.—The *Medical Press* announces that in consequence of the confiscation of three articles by the official Censor, the appearance of the February number of the *Medizinskoïe Obosrenïe*, a leading Russian medical review, has been delayed a month.

COLD OF THE HEART.—Luton says that a gorged condition of the heart is the salient symptom of an impression *a frigore*, which is manifested anatomically by inflammatory and plastic lesions. The clinical symptoms are painful spots over the chest, precordial anxiety, a sense of constriction, and a dry, fatiguing cough. The sequel of this condition is a muco-purulent catarrh of the bronchial tubes, which corresponds to the crisis of this indefinite ailment, which is then called a "cold." The effect of digitalis in aborting these attacks before they have reached this stage shows clearly that the cardiac muscle is at fault.—*London Medical Recorder*, February 20, 1888.

DR. ROBERTS BARTHOLOW, of Philadelphia, we learn, has been elected an honorary member of the Royal Medical Society of Edinburgh.

EDITORIALS.

AMONG the diseases which afflict civilized mankind few can be named which year by year claim so many victims as diphtheria. The young especially are prone to be attacked by this devastating foe to humanity. How many a household has been robbed of its brightest and loveliest ornaments by it! Not a few, too, of the most useful or most promising members of our profession have been hurried to an untimely grave in the discharge of their professional duties to patients suffering with diphtheria. What nobler task, then, can engage the attention of the scientific investigator than to attempt the elucidation of the various questions which this all important subject naturally suggests. To such a task in part Dr. M. J. Oertel, of Münich, has addressed himself, and the careful perusal of his splendid Work will convince any impartial reader that he has not labored in vain. The problem which he endeavors to solve is an answer to the question in regard to the essential nature and pathogenesis of diphtheria. The result of his elaborate histological studies are briefly as follows: The phenomena peculiar to diphtheria demand for their production as a necessary postulate a specific virus. This virus or contagium is dependent upon bacterial vegetations. By the vital process of the schyzomycetes proliferating on and in the epithelium, and later in the membranes, a chemical body is finally formed belonging to the class of the ptomaines, which first penetrates into and through the epithelium, leads to alteration of the fluid of the tissue and to irritative conditions, which produce an active infiltration of leucocytes in the direction of the poisoned epithelium. The leucocytes appropriate to themselves the penetrating substance, become themselves poisoned and perish with the phenomena of necrobiosis, while their albumin-combinations, their protoplasm and nuclear substance are penetrated and decomposed by poisoning bodies, or, if the decompositions are accompanied by fermentative processes, give rise again to new ptomaines. While new cells arrive in succession and come in contact with the poisonous substances, they take up the latter, swallow them, and, under the influence of the poison, become diseased and die, the dissemination of the poison meanwhile becoming greater and greater, and the diseased foci more and more numerous, as found in the different tissues, in the mucous membranes, in the tonsils and lymph glands, and in the spleen. When fibrinous exudation and membranous formations have occurred, these bacteria proliferate through them more and more until they penetrate into the mucous tissue itself. With their multiplication in the membrane and with the increasing decomposition of the albuminous substances they produce, the specifically acting ptomaines are also increased, so that they not only fill and infect the membranes, but also penetrate farther down in the mucosa itself. The final products of the poisoning of the cells, as well in the membrane as in the connective tissue, are nuclear changes, decomposition of the nuclear contents, constriction of vesicular-like formations with parietal decomposed neuclear contents, disintegration granules, and dissolution of these into a homogeneous fluid substance and coagulation. This study is a conclusive proof that epidemic diphtheria is an infectious disease which is evoked by bacterial vegetations, that it localizes itself, at first, in the inflamed fauces, and, after the lapse of a certain interval, which cannot be accurately defined, becomes a general infectious disease, in which the general infection is determined and maintained by the local. The clinical and therapeutical deductions which the author draws from his investigations can only be touched upon. In the first place, the significance of the diphtheritic pseudo-membrane must undergo a modification from a clinical standpoint. In view of its genesis, it should no longer be regarded as the first pathological and pathognomic sign of the diphtheritic infection, with whose removal, disinfection or destruction, and solution we may believe we can fulfill the main problem of the local treatment. The infection and the first signs of the disease may have already extended to large areas of the mucosa, with no perceptible change on it to the naked eye. Even if it is thoroughly cauterized or disinfected, new membranes may originate, as their formation ensues not only from the surface, but is mainly dependent on the origin of necrobiotic foci in the tissue of the mucosa itself. With reference to the local treatment, it should be our endeavor to bring about a thorough disinfection of the oral and pharyngeal mucous membrane, and, at the same time, avoid irritating or wounding the surface of the mucosa. The best means for accomplishing this end is the repeated irrigation of these mucous membranes by disinfecting fluids in the form of vapor. More than ever before have these studies emphasized the pathognomic significance of the enlargements of the lymphatic glands, in relation to the local and general infection, even when the eye cannot recognize the already existing local infection. So far as relates to general treatment, the author candidly confesses that he has nothing new to offer. On the other hand, a prophylactic hygiene acquires the greatest significance, the problem which it presents being pre-eminently dietetic. The more powerful the body has become by proper nutrition and other means, in the same degree will the energy of the vital activity of the minutest elements and their resistent faculty be enhanced, and hence, in their combat with the infecting bacterial vegetations, they will be competent to digest, transform, and decompose the poison entering the system. This may seem to be a lame and impotent conclusion, but it is in harmony with the study of other infective diseases. Our efforts must be directed in the way of prevention rather than cure.

THE AUSTRIAN MINISTER OF PUBLIC INSTRUCTION has issued a decree prohibiting the publication of school books in small type, on account of the great frequency with which myopia is found in Austria.

It is a remarkable fact that the Old English text is still preserved in Germany; on account of the positive grotesqueness of the letters, it must be more difficult to read than Roman letters of the same size. If such type be very small, it is absolute cruelty to subject children to such a strain. It is a fact that myopia exists with great frequency in Germany. Germans are spoken of, in general terms, as a race of myopes. A controversy took place some time since between German authorities with reference to the cause of the frequency of myopia in Germany. One held that it was not owing to the text of the books and to bad illumination, but was the result of an over-development in the length of the eyes, which might take place without involving any pathological condition. The other held that the frequency was due to the text used in the books and to bad illumination in reading. To any one who goes from America to the continent of Europe, the frequency with which he sees concave glasses worn is striking. There is little doubt that myopia occurs with great frequency in Germany, and one cannot fail to get the impression in travelling on the continent and in England that myopia exists to a greater extent in Germany than in the United States, France, or England. Candles are often used there as means of illumination in general, and it is probable that many use them for illumination in reading. Perhaps no person is born myopic; most little children are hyperopic; as development goes on, the length of the eye increases, till emmetropia is reached. Here development should cease, as far as an increase in length of the ball is concerned. But it may proceed further, and the eye may become myopic. This may be hereditary or the result of strain. In either case the tunics of the ball may remain normal, and the eye may be perfectly sound; or, what is more frequent, one of the tunics at the posterior pole of the eye may yield to the pressure of the intraocular contents, and a pathological condition arise. It is not reasonable to assume that myopia is a condition resulting from a physiological increase in the length of the ball; it seems more probable that myopia is due to increase in length from over-use and strain. In saying that myopia may be hereditary, we confess we do not fully express our meaning. We believe that the lack of density and compactness in the tissues composing the eye is inherited, and that strain under these conditions causes the lengthening of the ball.

We do not speak from statistics, but we believe that hypermetropia is more frequently met with in this country than myopia. Of fifty cases taken at random from a note book, there were three cases of myopia—a percentage of six. The facilities for lighting at night are perhaps better in this country than in any other. Our school books are usually printed in large, clear type with average line lengths and broad spaces. The London *Lancet* remarks, *àpropos* of this subject, that scientific supervision might be given to the school books in England.

We dare say that no man has ever finished reading the *Lancet* without weariness, on account of its small type and narrow spaces. The *British Medical Journal* is only a little better. The *Lancet* would do well to change its type and have a care for the eyes of *its* readers. Charity commences at home. The pleasure of reading its scholarly productions is always alloyed with the worry that the effort to see the type causes.

In looking over our American exchanges, we find them almost, without exception, in good, clear type, with broad spacing.

NE QUID NIMIS.—It is claimed that gravity will aid expectoration. In view of the generic significance of the word, "expectoration," and the fact that it is usually performed in the erect posture, a few words are necessary to explain the preceding sentence.

A contemporary states that in cases of pneumonia, with great accumulation of secretion in the bronchial tubes, considerable benefit may be derived by *inverting* the patient, and having him cough while in this position. It may be easily accomplished by a strong assistant, who stands on the bed, and, grasping the patient by both ankles, lifts his legs four or five feet in the air. The patient will thus get rid of a great deal of matter that exhaustive efforts might fail to bring up when expectoration is performed *secundum modum naturæ*. Life has been saved by repeated performance of this *manœuvre*, in pneumonia accompanied by great cyanosis, due to inundation of the bronchial tubes, with mucous secretion. This procedure is, of course, of no value in removing the exudation in the vesicles.

There is little question about the fact that gravity would be of great assistance in such conditions; but great judgment should be exercised in selecting the cases in which to employ the treatment. Troublesome little children who cough at night would be the cases *par excellence* we would select. If the patient were an adult male, a great many things would have to be taken into consideration. There might not be a convenient assistant at hand to elevate the feet; or the assistant might not be able to raise the feet of the patient high enough to procure the full benefit of the treatment; if the assistant were capable of doing so, the patient might not be able to time his efforts at expectoration exactly with the elevation of the feet—in which case some of the conditions for success would be lacking.

It seems necessary that the patient should have his head over the side of the bed. This seems rational, for otherwise the mucus would not have a straight through passage; but this would entail extra strength on the part of the assistant. It is said that this treatment is of peculiar advantage when cyanosis is present. Is it not possible that that may occur as the result of the procedure?

It is perhaps in the memory of every one to have stood on his own head and to have seen his playmates stand on theirs. We have frequently noted cyanosis under such circumstances. We enter our protest against the method of treatment in women. The suggestion is a common-sense one, though we honestly think impracticable, except within the narrowest limitations.

"TROS TYRIUSQUE MIHI NULLO DISCRIMINE AGETUR." — We are pleased to note that the Legislature of Virginia has amended the law regulating the practice of medicine and surgery in that State. *No one* can now practice in Virginia without passing a satisfactory examination before the State Board.

The legislators of Virginia have done well, and THEIR duty has been performed. The roadway is now marked out but the roadbed must be laid. As the Examining Board at present stands, dissatisfaction will continue.

The selection of such a Board as we indicated in our March number forces itself upon us as a wise precautionary measure—also the setting of the examinations at the beginning and end of the collegiate year.

It would be well for other States to follow the course of Virginia in this matter. It is only necessary to cite the existing state of affairs in New York.

If a man desires to practice medicine in New York State, the law demands in the first place that he must have been engaged in the study of medicine three years and must be a graduate in medicine. If he has not had the fortune to graduate in a State college, a certain routine is demanded, which routine gives but little idea of his capacity to pursue the profession of his adoption with intelligence. He has to call upon some physician who occupies a professorship in some diploma-giving college of the State. If said physician approves of the applicant's *alma mater*, he endorses the diploma in legal form in the name of the faculty of the college to which he belongs. For this the fee of twenty dollars is paid. It is necessary then for the applicant to present himself and diploma at the county clerk's office, where, the name of the endorsing physician having been recognized, a trifling legal form is gone through, and the applicant is referred to the "Bureau of Vital Statistics." His name and address are there recorded and he is furnished with a roll of blank certificates for births, deaths, contagious diseases, etc.

The College of Physicians and Surgeons of this city has furnished itself as a notable exception of this rule. Its faculty refuses to endorse the diploma of any applicant until they have satisfied themselves by oral examination in all the branches of medicine, of the applicant's capability to practice medicine intelligently. The good sense and justice involved in this attitude commends itself to every one. Suppose an applicant presents his diploma to some other faculty who do not regard his *alma mater* sufficiently highly to affix their signatures of commendation to it, it is necessary for this applicant to continue to seek some faculty that *is* willing to endorse his diploma. Now, it is a fact that certain colleges in this State refuse to endorse diplomas from any college you please. In other words, they exercise the right of *veto* and *permitto* in the matter.

This in itself is just, seeing that in this way the people at large are protected, in some degree, at least, against incompetent practitioners.

But the fact that a man holds the diploma of a college of high standing, does not necessarily mean that he is prepared to practice medicine. The fact that a man holds the diploma of a college of low standing, does not necessarily mean that he *is not* prepared to practice medicine. The principle of giving permission to practice by virtue of the college of graduation, takes cognizance only of the stand of the college and not of the applicant's qualifications. Now the physician who makes the application will be responsible in practice for the welfare of his patients. It is improbable that the faculty of his college would be willing to shoulder the responsibility.

This is scarcely equity. It would be well for other colleges in this State to follow the example of the New York College of Physicians and Surgeons, or else a State Examiner should be instituted.

We append the "Amendment as passed by the General Assembly of Virginia:

"1. *Be it enacted by the General Assembly of Virginia*, That section 4 of an act entitled An act to regulate the practice of medicine and surgery, approved January 31, 1884, be enacted so as to read as follows:

"Section 4. It shall be the duty of said Board, at any of its meetings, to examine all persons making application to them, who shall desire to commence the practice of medicine or surgery in this State; and when an applicant shall have passed an examination satisfactory as to proficiency before the Board in session, the president thereof shall grant to such applicant a certificate to that effect. A fee of $5 shall be paid to said Board, through such officers or members as it may designate, by each applicant before such examination is had. In case any applicant shall fail to pass a satisfactory examination before the Board, he shall not be permitted to stand any further examination within the next three months thereafter, nor shall he have again to pay the fee prescribed as aforesaid: provided, however, no applicant shall be rejected upon his examination on account of his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and cure of diseases: and provided further, that when, in the opinion of the president of the Board, any applicant has been prevented by good cause from appearing before the Board, he shall appoint a committee of three members, who shall examine such applicant, and may grant him a certificate, which shall have the same force and effect as though granted by the full Board.

"2. This act shall be in force from its passage."

THE NEW YORK POLYCLINIC.—The following statement of facts bears on its face the marks of rich success that the New York Polyclinic has won.

The Secretary's report to the Board of Directors for the year ending 1887, shows the number of matriculants to have been 353. This is probably the largest class of graduates in medicine ever assembled during one year in any single college in the United States.

The total number of matriculants from October, '82, to March 1, '88, was 1,343, which figures give an average of 250 a year.

The scale of increase was as follows: '82—3, 161; '83—4, 182; '84—5, 229; '85—6, 240; '86—7, 301.

This great success should be all the more gratifying in view of the fact that numerous "Polyclinics" have arisen throughout the country, many of which give equally good clinical advantages while they charge smaller fees.

Within the last year the clinical advantages of the Polyclinic have been vastly improved by the fitting of new and more spacious rooms; the surgical clinic is held in one of the finest amphitheatres we have ever seen; there are present all the facilities for the performance of surgical operations antiseptically.

Of especial interest and value are the pathological and bacteriological departments; those of the matriculants who desire to do independent original bacteriological or pathological work, have the fullest inducements offered them. The bacteriological department has been fitted up after the manner of Koch's laboratory, with sterilizers, incubators, etc. It is only necessary for this institution to add bed-side instruction, *in situ*, to make another step toward perfection.

Although the matriculants are invited by cards to operations in the various hospitals in the city, it is quite impossible to gain as much advantage by this method as if such instruction (or a part of it, at any rate) were given at the institution itself. In view of the great number of post-graduate schools that have arisen in the past four or five years, a vast amount of information must have been acquired by the profession at large. If such institutions succeed only in convincing practitioners that they cannot learn everything by themselves, some good will have been accomplished. If they succeed in snatching men from the wear and tear of general practice, they will do great good; each branch of medicine and surgery, being taught by experts, the knowledge of all who attend must be increased.

Post-graduate instruction in this country has marked this cycle for us from all others; the beneficial effects of it will certainly be felt. The Polyclinic has the proud satisfaction of knowing that she has largely aided in the establishment of this era for medicine in America.

A PLEA FOR PRESCRIPTIONS.—It is a rare thing that one can open a medical journal, or even a text book, without finding some mistakes in the prescriptions. The two most common faults, and the one to which we wish to call particular attention, are the mixing of Latin and English, and the incorrect abbreviations of Latin words. The whole fault lies in this: the writers either do not know the declension of Latin nouns, or they do not know the Latin words for the drugs. It seems to us much more sensible if one is ignorant of Latin to write the prescriptions in plain English. If you do know Latin, and want to use it, there is no objection to so doing; but write the *whole* prescription in Latin, and write it correctly. If you desire to cover an uncertainty in regard to the Latin terminations by abbreviations, be sure that you abbreviate correctly; e. g., do not say, "℞ Potass. Acetas," as we not infrequently see, but "℞ Potass. Acetat.," and so for any other nouns with nominative in "as," genitive in "atis." If you know the Latin, and still write it incorrectly, it is even less excusable. We should have some method, however; and what we do, let us do that intelligently and correctly.

THERE is no subject which possesses more interest for the medical profession at this time than the communicability of disease from animals to man, and every fact bearing upon it should be carefully reported and considered.

The transmission from the cow to man of scarlet fever and tuberculosis was the subject of the opening address of Dr. Hamilton at Marischal College, Aberdeen, in which the lecturer gave an excellent account of the investigations conducted by Mr. Power and Dr. Klein into the relation of a cow malady to scarlet fever in man. He referred also to the observations of Copland, who believed that both the dog and the horse could suffer from the latter affection, and stated that a febrile condition of some kind can be communicated to animals by inoculating them with the blood of persons who are the subjects of scarlet fever. He further expressed the opinion that tubercle could be conveyed to man by means of milk from tuberculous cows. While the possibility of such occurrence cannot be denied, it must be borne in mind that Klein has pointed out that there are certain important differences between bovine and human tuberculosis; and again, Creighton has shown that man occasionally suffers from a form of this disease which resembles the bovine malady, making it probable that by far the greater number of cases are not of bovine origin. Nevertheless, the subject deserves much greater investigation, and contributions are specially invited in regard to it.

AN ABUSE.—We are credibly informed that it is not unusual, in the city of Washington, for young men, before going to dinner parties, in order to better prepare themselves to play the part of gluttons, to wash out their stomachs a short time before the appointed hour. Now, while it is not exactly commendable to play the hog at any time, or by any means, it is certainly all the more reprehensible in proportion to the respectability of the means employed. That medical appliances, which have a limited field of usefulness, should be substituted in fields that disgrace the man and thwart the disposition of the maker, is hardly short of a crime, and is chargeable to the physicians who prescribe these instruments for patients (?) to use when and where the patients themselves deem conducive to the better display of animal propensities, or to the makers who furnish them without a physician's prescription.

Grant, if you choose, and as those claim who unrighteously make use of such a practice, that it makes one feel like a new man, and that the stomach is cleared out and prepared to receive an unusual amount of ill-assorted food. Can any one fail to see that nature will soon rebel, and that a reaction must follow excessive efforts on the part of the stomach toward digestion?

We do not pretend to dictate what is to be eaten, and how much; but we do insist on this: That the improper employment of useful medical appliances will react discreditably to the profession; to the instruments themselves; and, above all, to the silly, short-sighted people who opine thus to circumvent the laws of nature. The remark is not a new one that: He who has himself for a physician, has a fool for a patient. But we have never seen a more complete justification of this sentiment than in the case that we have just considered.

WE have learned with much regret that Dr. Wm. R. King, of Louisburg, N. C., died on March the 8th. Dr. King represented the highest type of the physician, and passed away from the scene of a life's usefulness amid the genuine sorrow of a large community. He was one of the original subscribers of this JOURNAL, and has never allowed a year to pass without sending to its Editors messages and letters of cordial appreciation.

His family have the sympathy of his many friends, and it must certainly be a consolation to them to remember that whoever knew Dr. King learned from him a lesson such as can only be stamped on the memory by coming into personal contact with a man thoroughly kind, unselfish and noble—one whose aims were of the highest, and who gladly conceded to all more than they could have claimed for themselves. May we never want for this class of men in the profession.

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ORIGINAL ARTICLES.

ARTICLE I.

THE EYES AT THE AGE OF PUBERTY,

By CHARLES W. KOLLOCK, M.D., Charleston, S. C.

Diseases or functional disturbances of the eyes, caused by normal and pathological conditions of the sexual organs cannot fail to excite the interest of both specialist and general practitioner. In not a few instances patients will complain only of troubles with the visual apparatus, while the sexual organs are not mentioned, though the orgin of the trouble may lie there. Since reading the excellent address (Bowman lecture) of Mr. Henry Power in the *London Lancet* of November 26th and December 3d, '87, my attention has been more carefully directed to such cases and a report of a few may be of interest.

A. B., æt. 15 years, was brought to me by her mother for examination of her eyes. For several months she had suffered from pain and general discomfort in using them, though her employment was not of a trying nature. Examination showed vision normal, accommodation weak, conjunctivitis, and with the ophthalmoscope the optic disks were seen to be hyperæmic. Refraction was hyperotic. Menstruation had not commenced. A collyrium of acid. boric and zinc. sulph. was prescribed, and instructions not to use the eyes for any near work. At her next visit she was much improved, and her mother informed me that menstruation had begun. Since then improvement has been rapid.

K. G., æt. 16 years. R. E. V = $\frac{15}{c}$; L. E. V = $\frac{15}{15}$. Asthenopic symptoms whenever eyes are used; slight conjunctivitis and marginal blepharitis. The ophthalmoscope showed an exceedingly interesting condition of the right eye. The nerve was a little swollen. At the macula was a spot of retino-choroiditis measuring fully three disk diameters in the transverse, and two in the vertical diameters. This was bounded by a sharp, jagged border of pigment which was overtopped by a shining inflammatory deposit on the outer edge. Across this space the choroidal vessels coursed and small patches of pigment were deposited, except in the left third, which was of brilliant whiteness. The ophthalmoscope showed a depth of –3 D. in the space over which the vessels passed, and pigment was scattered, and in the space of brilliant whiteness it was–6 D. The latter was a posterior staphyloma, in which the sclerotic coat alone participated. This patient had been suffering from the eyes (this one in particular) from about the time of commencing menstruation, which has been going on for two years. Refraction Em.

Mrs. S., æt. 26 years. R. V = $\frac{15}{15}$; L. V = $\frac{15}{40}$. When between seventeen and eighteen years of age she began to suffer acutely from the eyes, and was obliged to leave school. Examination with the ophthalmoscope shows extensive retino-choroiditis in both eyes, especially in macular regions. The fields of vision are full of scotomata, and she is unable to use the eyes for any near work. The age of commencing menstruation in this case was not learned, but the eye disease must have begun about, or soon after that time.

Miss B., æt. 17 years. R. E. V $= \frac{15}{30}$; L. E. V $= \frac{15}{30}$. Has considerable discomfort whenever she uses the eyes for reading or close work. About five years ago was obliged to leave school on account of the eyes, but they afterwards improved considerably. Ophthalmoscope shows in the right, a patch of retino-choroiditis below and to the left of the macula, which almost extends into the macula. In the left there was slight inflammatory exudation in same region which seemed to be the remains of a former disturbance. Examination of refraction, with eyes under the influence of atropine, revealed compound hypermetropic astigmatism of a slight degree. She was advised not to use the eyes and placed upon Potas. Iodid. In a month the vision had become normal in the left, and nearly so in the right. The ophthalmoscopic pictures remained the same. Mr. Power in his lecture, hints that lachrymal abscess may be caused by pregnancy. My note book has four cases of this nature, and it is rather remarkable that the seare sisters, all very prolific.

Mrs. B., when advanced about two months, first noticed epiphora, which was quickly followed by the formation of an abscess of the lachrymal sac.

Mrs. M.—Second sister. During one of her pregnancies, was annoyed by epiphora, and, after the birth of the child, an abscess formed. Both ducts were closed when she was first seen.

Mrs. B.—Third sister. Very prolific; is occasionally threatened with an abscess by an accumulation of the tears in the sac, but which fortunately has been aborted in every instance by prompt syringing of the sac and duct with a weak solution of bichloride of mercury.

Mrs. I. consulted me, when advanced in pregnancy, about five months, and a lachrymal abscess was then fully formed. Trouble began during the second month.

Mrs. W. came on account of dimness of vision and general inflammation of lids and ball. Ophthalmoscope revealed both disks inflamed, and the vitreous humor of both eyes hazy from floating opacities. She had nursed her baby for sixteen months. Iodide of potash and weaning the baby brought about a cure.

Mary I., mulatto, æt. 30 years. This is a very interesting case. She has borne six children and was nursing the last, which was nine months old, when the eyes became sore. When first seen, there was blepharospasm, intense photophobia, and a well-developed attack of interstitial keratitis. The occurrence of this disease at the age of thirty is rare, it being more generally seen between the ages of six and twenty years. Again, was it specific and brought out by nursing, or may it have been caused by the nursing alone? for the Germans believe it does always denote inherited syphilis. No specific history could be elicited. Weaning the baby, and the internal administration of potassium iodide and the syrup of the iodide of iron are rapidly bringing about a cure.

Miss D., æt. 30 years, consulted me for asthenopic symptoms. Careful examination failed to reveal any ocular disease, and throat and nose were free from trouble. Menstruation found to be very scanty—rarely lasting more than a day. Under treatment by her family physician she is gradually improving and uses her eyes with more comfort.

M. I. M., æt. 13 years, was brought by her father. Suffers from pain in temples and forehead. In January, '87, her eyes gave way while she was at school, obliging her to leave. Glasses were prescribed by an oculist to correct existing myopia (3 D.), but not until April was any improvement visible. Menstruation began at this time, and, like magic, her discomforts passed off. In September, owing to her improved condition, she was again sent away to school. Her period did not recur during October, and in December it was found necessary to remove her from school a second time on account of pain in eyes and head, and inability to read. She was first seen by me on the 23d of February, '88. R. E. V = 0. L. E. V = large objects at two feet.

She was pale, but fairly well-nourished and in good spirits apparently. Lids were inclined to droop. No conjunctival lesion. Pupils responded to light, but not very active The ophthalmoscope showed a normal condition of nerve and fundus beyond a little paleness of former, and myopia of 3 D. She was referred to the family physician for treatment, menstruation not having recurred. This seems unquestionably a case of amblyopia from suppression.

A study of these cases shows conclusively that there is a connection at times between diseases and abnormalities of the sexual organs and ocular troubles—functional or pathological. The cases of retino-choroiditis occurring at or near the age of puberty, and around the macula, are significant. I have seen no such percentage of cases in boys at this age. It is possible that some specific origin may have existed which only needed the disturbing elements of this maturing age to bring it into prominence. As the time for maturity approaches, there must be an outlet for nature's relief; and, if the natural functions are not established, other parts must suffer. A determination of blood to the eyes may cause a hæmorrhage into the eye of the young girl or woman passing the climacteric, or glaucoma may develop in the latter.

That vomiting in early pregnancy causes an intense congestion of the nose and lachrymal apparatus is not surprising; and it is but necessary to establish the overflowing tear, when any slight cold may cause an abscess to form. Cases where the eyes have been known to be affected by syphilis, have been purposely omitted from this paper.

ARTICLE II.

ACUTE ARTICULAR RHEUMATISM.*

BY DR. IRA B. READ, NEW YORK.

Among the ills to which flesh is heir, there are few where relief is more eagerly sought than in acute rheumatism. Ere you enter the sick room you are told, instead of asked, what is the matter, and truly the scene presented to your view is one of suffering. There on his back lies your patient, his eyes looking wistfully toward you, almost afraid to speak, lest the effort cost him another pang. His face is flushed and expressive of pain and apprehension. The affected joints are carefully protected and guarded being swathed in cotton or flannel. As you approach the bed your very step may cause pain, and if the wrists are affected, beware how you examine the pulse. You will find the joints red and swollen, and painfully sensitive to the slightest touch or motion. The pulse from 90 to 110, the temperature from 102° to 104° in the majority of cases. There are all the usual febrile symptoms and you are satisfied that your patient has diagnosticated his case correctly. But here his knowledge of it stops, and from you he desires the prognosis and treatment. He will tell you that he was exposed to wet or cold, that for a little while he had "pains all over him," together with a slight chill followed by fever. This was speedily followed by pain and swelling in the affected joints. Your prognosis is cheering and positive, guarding yourself in regard to time and relapse; for you will find that very frequently when you think your patient is ready to leave his bed back comes the enemy, attacking either the former or another joint. But present relief is eagerly sought. You write your prescription, preserving a countenance and bearing of unmixed wisdom, and you leave patients and friends satisfied. But how is it with yourself? As you go away, do you not ask yourself what can cause this sudden change from apparent health to disease and suffering? What conditions of the system furnish the soil on which this seed may thrive? From whence comes this seed? What will soonest kill it and its rheumatic growth, and leave the body a fit resting place for only the seeds of health? To these questions your answers have been unsatisfactory, and they are asked to-night, not to be answered by me, but that in a multitudeof counselors, some wisdom and truth may be brought to light for our knowledge and the good of suffering humanity. As to causes. All will agree that the great final cause is exposure to wet or cold. Granting this, what are the conditions, and what the changes that produce the condition before us? If we look to age or sex or previous condition we get but little light. We find the large majority of cases occurring between the ages of fifteen and thirty, yet no age is free from it, and this is, therefore, only an accidental factor. We meet it more frequently then, because between those ages other causes produce their effect more readily. If it is said that at this age we have not attained our full resistive power against the attacks of this particular disease, I ask why in descending the hill in later years, we are not nearly as liable to its attacks, for in the descent we pass the same meridian that we do in the ascent. And so, if you mention sex as a cause, we find that the difference is but slight, and that the greater number being found in the male sex is accounted for by reason of greater exposure. Previous condition, such as heredity, strength, freedom from previous illness, etc., simply afford different degrees of resistive power when attacked. In all this we have only predisposing causes in greater or less degree. It is the exciting or immediate cause that we would find and remove. Your patient is satisfied if you tell him that exposure to wet or cold brought him to his present condition. But does this satisfy you? Why does the same exposure to cold or wet cause acute articular rheumatism in one, bronchitis in another, pneumonia in a third, and renal disturbance in a fourth? Why is it that in your patient only the joints, and indeed only a part of them, are red, inflamed, swollen and tender? Why, in a few hours, do we find that the pain and swelling have left one joint and attacked another heretofore painless; and again, leaving that, return to its former location?

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* Read before the N. Y. Co. Med. Association February, 1888. The discussion of this paper was full and interesting. It is much to be regretted that we have not sufficient space to publish it.—EDS.]

We know that we find an excess of fibrin in the blood in a majority of cases; that the amount of urine is decreased, with an increase of solids; that there is an increase of urea and uric acid, and probably an accumulation of lactic acid. We have the pulse too frequent and the temperature too high. But why do we find the disease manifested in the joints alone, and in these in succession? Have we a micro-organism, a bacteria-rheumatica, or rheumacoccus, whose taste is so epicurean that it will feed only on joints, and refuse to be cultivated in aught but synovial fluid, and not even in this unless properly cooled and moistened by exposure to cold and wet? Over these questions a cloud rests, and must remain unless you or the wisdom of future generations shall discover and bring to light the true offender. As I said before, I have not asked these questions to answer them, but that I may receive light from my brethren. In our pathology we are all at sea, as we cannot agree whether local disturbances are the cause or effect of general manifestations.

But emerging from the clouds of theory and speculation as to ocult causes, we give our prognosis and treatment in the broad light of experience. With good constitutions, we can assure our patients that they will recover. We bear in mind heart and cerebral complications, but comparatively rarely are they fatal. But we must remember that fatal heart trouble does sometimes follow a comparatively mild rheumatic disturbance, as was illustrated by a case which I recently had the honor to present to this Association.

The duration of the disease is variable, according to the previous condition of the patient and the remedies employed. Probably the average duration of the acute symptoms is between five and seven days. We come now to the more practical question of treatment. In the first place let everything be done for the comfort of the patient in the matter of nursing. There should be complete rest of all affected joints. They should be wrapped in flannel or cotton, and, being placed in as comfortable a position as possible, kept there. Anodynes should also be given for the relief of pain and to induce sleep.

Following this, I would give ten grains of calomel and soda at bedtime, ordering a saline cathartic in the morning. In a few cases in which I have used it I have been pleased with the action of antipyrin, its analgesic action almost equalling its action as an antipyretic. But these are but relevés and entreés to the more solid course of salicylic acid in some form. The following is the formula which I have used for years, and have found it more palatable than, and quite as efficacious as, any other:

℞

Acid salicylic,	ʒiij
Sodæ bicarb.,	ʒii
Aq. dest.,	℥ij
Syr. Sarsap. Co.,	℥j

M. Sig.—One teaspoonful every two hours.

This forms a clear and not very unpleasant solution. We get the combined action of the alkali and the salicylic acid, and usually in twenty-four hours there is a change for the better. Sometimes the remedy produces such an unpleasant ringing in the ears that the dose must be lessened or the interval lengthened.

With this treatment I believe we shall succeed better than with any other, but here, as everywhere, we will sometimes meet with disappointments. Of the complications of rheumatism and its specific form I will say nothing, except to warn you that in gonorrhœal rheumatism you must expect to be met with hindrances and obstructions at every step, and find your most favorite theories and practice of treatment overthrown.

NOTE.—Since writing the above I find in the *Medical News* an abstract of a report of 655 cases of acute rheumatism from the *British Medical Journal* of July 25, 1888. Of these cases 57.25 per cent. were males; 42.75 per cent. females; 32 in children under 10; 80 per cent. of the cases occurred between the ages of 20 and 40; 71 cases were domestic servants, which Dr. Whitman attributed partly to a great consumption of alcoholic drinks, also to want of exercise, and damp and poorly ventilated rooms. With those who were intemperate the average duration was 23.6 days; temperate, 25.27 days; teetotallers, 27.26 days. By far the larger number of cases occurred in high, dry regions; more than 47 per cent when the atmosphere was damp and cold and cloudy. Exposure to cold and wet preceded 366 cases. Over-fatigue alone was present in 64 cases.

Of the total number, 536 were treated with salicin compounds, and in only 22 cases did they fail. Of this number the salicylates failed in 16 cases; 70 patients suffered relapse; 22 died, mostly of heart complications.

(Aufrecht.—Salicylic acid, 90 grs. three days, 45–60 grs. after.)

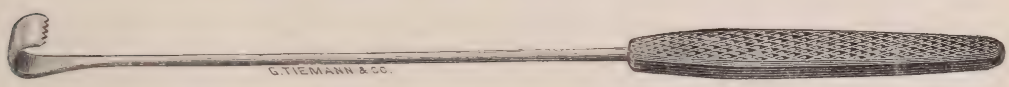
ARTICLE III.

REMARKS ON THE REMOVAL OF THE PLACENTA IN ABORTIONS. A NEW PLACENTA HOOK.

By C. J. CLARK, M.D., Selma, Alabama.

In abortions where the placenta remains in the uterus, after waiting a sufficient time, the simplest process is to pass the finger into the uterus and hook down and turn out the placenta. Almost every practitioner meets with cases in which it is difficult or impossible to do the thing in this simple manner. It cannot be done without forcing the hand into the vagina, which is always disagreeable to the patient and painful. In primiparæ it is difficult and often impossible. The cervix and os, having been but slightly dilated in the earlier cases, contract so firmly that it is impossible to reach the placenta without undue force and violence. In many cases the placenta, if left alone, is finally thrown off by the contractions of the body of the uterus, with or without ergot. But while the placenta remains the patient lives in suspense and anxiety, is in danger from hæmorrhage, and finally from septicæmic poisoning. I have carried for years a pair of "placenta forceps," but have rarely, if ever, succeeded with them. With a contracted and rigid os it is difficult to expand the forceps, or to grasp the placenta, or to know when you have grasped it. Dewee's hook has proved utterly useless in my hands. I can find only these two instruments mentioned in any catalogue or list of obstetrical cases examined.

Upon my suggestions, those admirable instrument makers, Messrs. George Tiemann & Co., of New York, have made me a neat placenta hook (as shown in the engraving) in their best style of workmanship.



The hook is five-eighths of an inch wide, one-sixth of an inch thick, curved on the shank and lightly serrated at the end, with the teeth slightly inclined inwards. The round, slender shank is seven and a half inches long, and, with the hard rubber handle, the entire instrument is twelve inches, the whole light but strong. The handle is serrated on the side of the hook, so that the operator can at all times know the direction of the hook while in the uterus.

In using the hook, of course, care must be taken not to hook the uterus instead of the placenta, which can generally be located by the finger. This instrument might be used to remove membranes and clots from the womb, draw down pediculated tumors, or as a curette in some cases. Having found it useful in my hands, I submit it to the profession for what it is worth.

ARTICLE IV.

THE PNEUMATIC CABINET IN LUNG DISEASE.

BY SIDNEY ALLAN FOX, M.D., BROOKLYN.

Having been asked to write an article for the JOURNAL on the above subject, I do so without reluctance, for it is now about two years since I read a paper before the Kings County Medical Society entitled, "A Report of Sixty-nine Cases of Lung Disease Treated with the Pneumatic Cabinet." The article subsequently appeared in the *New York Medical Journal*—issues of June 19th and 26th, 1886.

Since that time I have had a large number of cases under observation; have investigated some new fields in connection with the cabinet; and have contrasted the results obtained by this method of treatment with the results of other methods, so that I now feel in a position to write with more positiveness about the efficacy of the cabinet as a means of treating nearly all pulmonary troubles.

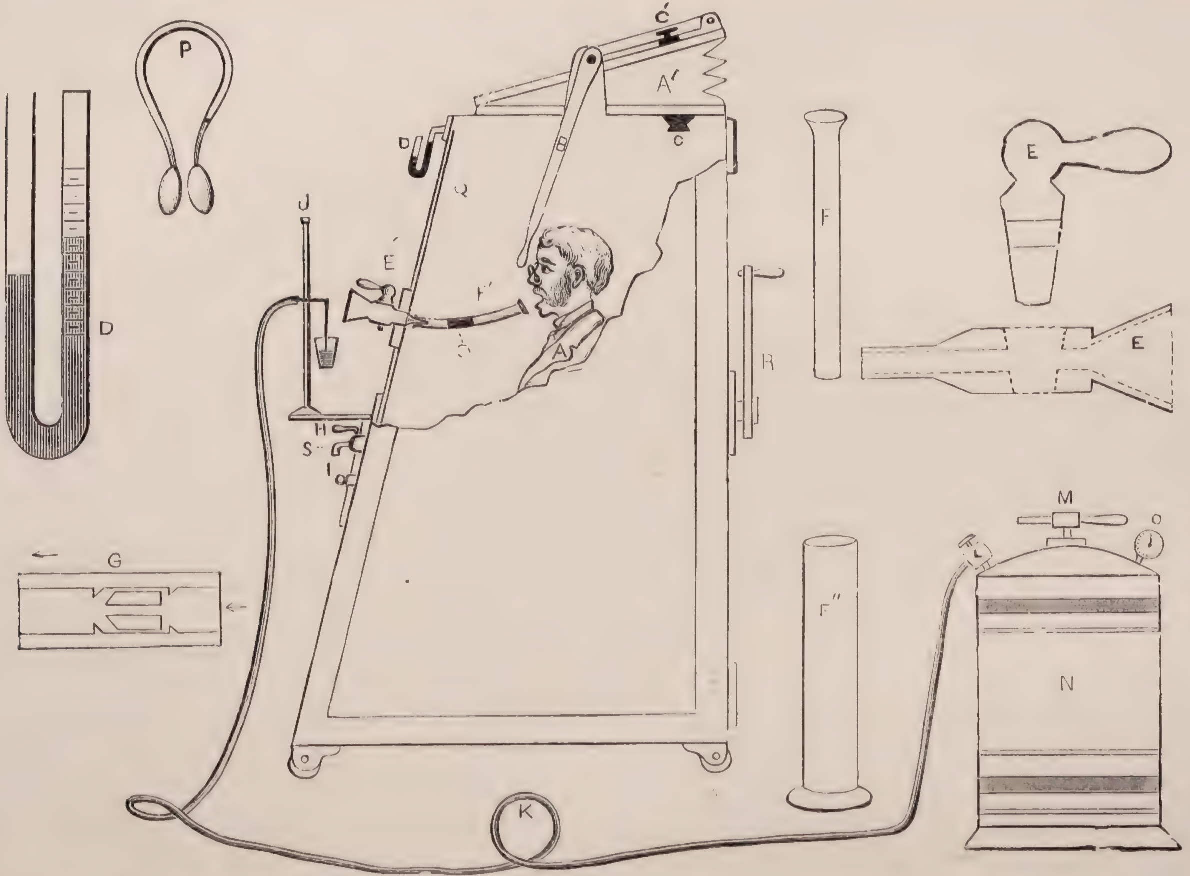
I shall endeavor not to weary the readers of this article with long histories of cases, but shall, rather, content myself with giving a short resumé of my experience with the cabinet.

For the benefit of those unacquainted with the instrument, a brief description of what it is may not be inappropriate. It is practically an air-tight iron safe of the following dimensions: 5½ feet high, 2 feet wide, and 3 feet deep, and contains about 45,000 cubic inches of air.

The upper part of the front has a glass window (see cut), in the centre of which is an aperture 1 inch in diameter, into which a hard-rubber stop-cock is fitted. The patient enters through a door in the rear, and sits in a chair while the treatment is being administered. By means of a bellows on top, which communicates with the interior through a system of valves, the air within the cabinet may be condensed or rarefied, or alternately condensed and rarefied, at the will of the operator. The amount of rarefaction or condensation is shown by a mercurial or water guage, both of which are attached to the improved cabinet.

The breathing is entirely oral, and to enforce this a hard-rubber nasal clamp is used.

By using compressed air, a spray of almost any medicinal agent, of which a solution can be made, may be passed through the hard-rubber stop-cock and inhaled by the patient through a soft-rubber



A, patient. A′, bellows. B, lever to operate bellows. C, cabinet valve. C′, bellows valve. D, manometer guage. D′, same half size, showing 4-10 in mercury. E′, breathing faucet in place. E, same detached, showing construction. F, breathing tube. F′, same in position. F′′, bath jar for holding same in aseptic fluid. G, artificial glottis. G′, same in position. H, adjustable stand for holding vaporizer. I, set screw for holding same in position. J, vaporizer. K, rubber tube leading to condenser. L, regulator, to control flow of air at any given pressure. M, pressure pump. N, condenser. O, gauge for compressed air condenser. P, nose clip, to compel oral respiration. Q, glass front to cabinet. R. lever for opening same. S, accessory—stop-cock.

tube. The sittings usually consume from ten to fifteen minutes each, and are given as often as the medical adviser deems best. To make a spray, a solution of some germicide or disinfectant is used—preferably the tincture of iodine, bichloride of mercury, or carbolic acid.

From what has already been explained, the reader will see: First.—That by the aid of the cabinet we can create a partial vacuum around the patient and allow him to breathe air at the normal density. The result of this will be to expand the lungs to almost any extent desired. The beneficial effects that follow this mode of treatment will hardly be believed by one unfamiliar with the cabinet. The good results are best seen in the first stage of phthisis (consolidation), in compression of the lung from pleuritic effusions, in unresolved pneumonias, in collapse of the lung from any cause, in acute and subacute bronchitis, and even in phthisis in the second and third stages.

I doubt the advisability of allowing patients having chronic bronchitis, emphysema and asthma, or chronic bronchitis and emphysema associated, to have their lungs forcibly distended and then expire into the cabinet, *i. e.*, into rarefied air. While the immediate effects are beneficial, I believe the ultimate effects to be bad, the emphysema being increased.

I have seen attacks of asthma produced by placing asthmatics in the cabinet. I have also seen attacks cut short by the inhalation of an ounce of the tincture of hyoscyamus.

Second.—By changing the valves in the bellows we can condense the air in the cabinet, *i. e.*, the patient can be surrounded by compressed air, the result of which will be to render inspiration more or less difficult, while expiration will be assisted—just the reverse of what follows when the air in the cabinet is rarefied; then inspiration is assisted, while expiration is correspondingly difficult. I am free to confess that I have had no cases where the second atmospheric condition seemed to be called for.

Third.—By again changing the valves we may alternately condense or rarefy the air within the cabinet to about $\frac{1}{100}$ of an atmosphere. These alternate changes may be made simultaneously with inspiration and expiration, both of which it greatly assists, and therefore is a good calisthenic exercise for the lungs. The good effects of this form of treatment are best noted in individuals who naturally have feeble inspiratory or expiratory powers, or whose breathing capacity has become enfeebled by disease. By means of the cabinet, then, the lungs can be subjected to almost any atmospheric change; the patient may inspire condensed or rarefied air, or he may expire into condensed or rarefied air. In addition thereto he may inhale a spray of any medicinal agent that the case may seem to indicate. I regard the spray as a very important factor in cabinet treatment. By its use tenacious and hardened mucous is rendered soft and expectoration easy; cavities are disinfected, and the physiological effects of a great many medicines are obtained. The effects of cocaine, atropine, quinine, morphine, hyoscyamine, and other alkaloids are readily secured by inhalation. The question may then be properly asked: May this not come to be a new and successful mode for the administration of medicines? It seems to me that in cases of irritable stomach, or when we desire to give rest to that organ, the means above proposed might be resorted to. It has long been a disputed point whether or no a spray or vapor can be carried into the lungs by means of the cabinet. I believe that it can, but will not discuss the point, but leave it to the physicist—preferring to write only of practical results.

In this connection I desire to speak of a case of phthisis where there was a large cavity at the right apex. Every few days the cavity would become filled with muco-purulent matter, and the occurrence would be announced by a chill or chills, followed by a rise of temperature; this could also be demonstrated by means of physical signs. The patient could not evacuate the cavity unaided, but by employing a higher vacuum than usual and a disinfectant spray, about two ounces of muco-pus would be expectorated, the chills would subside, and the temperature fall to normal. This performance was frequently repeated, and the case did well until life was terminated by an intercurrent affection. Several patients expectorated only once in twenty-four hours, *i. e.*, while the treatment was being given the patient would expectorate freely, and then remain free from a desire to cough or expectorate until the treatment of the following day was administered. I believe that in the cases referred to the expectoration was controlled by our ability to expand the lungs, and to rid the bronchial tubes of accumulated matter by means of sprays. I also think that the treatment tends to stimulate the normal secretion of the bronchial and pulmonary mucous membrane; this also assists expectoration.

I have treated and cured several third-stage cases of phthisis (cavity or cavities). The longest time that has elapsed in any case since a cure was claimed being three years. There is no possibility of a doubt as to the diagnosis in these cases, for it was confirmed by men whose ability is beyond question. I regard the catarrhal and fibroid forms of phthisis the most satisfactory to treat—the tubercular the least so.

I have repeatedly seen the symptoms disappear in first-stage cases of phthisis (consolidation). By first stage I mean when there is cough, some shortness of breath, poor appetite and digestion, slight dullness at the apex, frequently hæmoptysis, with possibly an exacerbation of temperature in the afternoon.

In alluding, incidentally, to hæmoptysis, it may be well to remark that I have never seen a case where this symptom could have been caused by the cabinet. On the contrary, a number of cases have been referred to me to have this symptom controlled, and in every instance I have succeeded by using a moderately-high vacuum and a spray of a solution of tannic acid.

In several instances, before patients had presented themselves for treatment, ergot, iron, tannic and gallic acids and other remedies had been tried without success. I refer, especially, to one case—a young man who had had as many as eleven hæmoptyses in as many days. He was, apparently, almost exsanguinated, and had been obliged to pass his nights reclining in a chair, because, on assuming the recumbent posture, a sense of dyspnœa was caused, followed by a hæmorrhage. His physician and a consultant, after faithfully trying to control the hæmoptyses, and failing, kindly referred the case to me. Two sittings in the cabinet caused a cessation of the symptom. I kept the patient under observation for three months. At the end of that time he had lost his cough, had increased in weight about thirteen (13) pounds, and was apparently as well as ever. A year later this patient continued to gain in weight and said he had never before been so well in his life. I believe that, in incipient phthisis, by moderately distending the lung, we admit air into parts of it that could not, perhaps, be reached by ordinary respiration ; that better respiration causes better oxygenation of the blood, and thereby promotes the functions of digestion and assimilation ; that the general health improves, as does also the local trouble, until, finally, recovery takes place.

The time when the cabinet does the most good in phthisis is in the first stage. Just as soon as the diagnosis can be established, subject your patient to the treatment—do not wait for the second and third stages, until the vitality of the patient has become exhausted—but begin the treatment early, while the chances for a cure are reasonably good. Delay usually means death.

In unresolved pneumonias and pleurisies the most brilliant results can be achieved. All cases, unassociated with cancerous or tubercular disease, yield readily.

Every case of acute, and, almost all cases of sub-acute bronchitis, can be cured by this method.

Some cases of simple chronic bronchitis can be cured and the remainder benefitted. The subjects of emphysema alone will be rendered worse, notwithstanding the assertion of Waldenburg "that expiration into rarefied air is the specific mechanical antidote to the emphysematous affections." In some subjects of asthma an attack will be provoked—in others relief will be afforded.

I have treated about two hundred cases with the cabinet, and was the first to report the successful treatment of pertussis and varicose ulcer by this method in a discussion of the comparative merits of the cabinet and Waldenburg's apparatus at the New York Academy of Medicine, January 17, 1888. The case of pertussis was treated with a solution of the tincture of iodine and the extract of pine needles, to which the tincture of hyoscyamus was added. The patient received great relief, the paroxysms ceased, and a cure resulted in about ten days. It is only fair to state that this case was a severe one, and that the cough had been troublesome for a couple of weeks before this treatment was begun. It was for the relief of this symptom that the patient presented herself, and the result obtained was exceedingly gratifying.

Believing that a plethora of the arterial system can be effected by the cabinet, and a corresponding depletion of the venous system caused as a result, I resolved to act upon the suggestion of a non-medical friend, who said he had heard of a case of varicose veins being cured by the cabinet. One day a lady came to my office with largely distended varicose veins of both legs, and a large ulcer on the right leg, which had troubled her for months. In spite of the best-directed efforts of her family physician, a very clever practitioner, it had refused to heal. Three sittings in the cabinet, balsam of Peru locally and support caused complete cicatrization in about two weeks. Four months later the former seat of the ulcer still remained a cicatrix. I believe that the cabinet very materially aided the cure in this case by unloading the over-distended veins. In the future further investigation will be made in the directions above indicated.

A few practical hints in reference to the upper air-passages come within the scope of this article. I maintain that it is absolutely necessary for the lung specialist to be a rhino-laryngologist as well. Beginning at the anterior nares and going backward, we first come upon nasal hypertrophies that need to be removed with the snare, chromic or mono-chloro-acetic acid, or the electro-cautery. Then come deviations of the septum with bony or cartilaginous exostoses, which can be corrected in a number of ways, preferably by removing a longitudinal section with Bosworth's saws. The nasal cavity must be cleared of polypi with Jarvis's snare, and the vault of the pharynx rid of adenoid growths by Lowenberg's forceps.

These growths are not recognized as often as they should be; they are frequently a cause of "catarrh," especially in children, but can easily be removed by the above method.

The uvula and tonsils come in for their share of treatment, as do also the pharynx and larynx, by applications and sprays. Having reached the lower portion of the larynx, we enter upon the field of the lung specialist.

A great many cases of cough that come for cabinet treatment need only the services of a rhino-laryngologist. This is especially true of reflex cough.

I repeat that to treat lung diseases successfully it is necessary to pay especial attention to the nose and throat, for the securing of normal (free nasal) respiration means success in a multitude of cases.

I am familiar with other modes of treatment, having been an interne of two of New York's large hospitals; have seen about all the medicines of the pharmacopœia that are used in lung troubles prescribed; and am also familiar with the injection of cavities with the tincture of iodine and other drugs, and, in private practice, with Borjeon's apparatus, inhalers, the oxygen treatment, and other methods; but I have discarded all and clung to the cabinet, regarding it as the only instrument ever devised that meets all the requirements for which it was intended.

22 Cambridge Place.

ARTICLE V.

A CASE OF SARCOMA OF THE LUNG.

By R. L. MacDonnell, B. A., M. D., Professor of Hygiene in McGill University; Physician to the Montreal General Hospital, Canada.

The following notes of a case of primary lympho-sarcoma of the lung in a child, where the physical signs closely resembled those of pleurisy with effusion, may prove of interest, both pathological and clinical. Primary sarcoma of the lung is very rare at any age, but especially in childhood, and the physical signs of pleurisy with effusion are so readily recognized that the physician is not likely to think of the possibility of any other disease being present when bulging of chest wall and flatness are present.

A. R., aged three, the son of healthy parents, had always been a strong and healthy child up to February, 1887, when his mother noticed that his breathing was becoming short and that he showed a strong disinclination for exertion of any kind. On the 7th of April he came under my care, when I found that, although there was every evidence of health, the whole of the right chest was flat upon percussion, except a small area just under the clavicle. The work of respiration was carried on wholly by the left side of the chest, the right remaining inactive. There was fulness of the affected side, but no protuberance of the intercostal spaces. Breath sounds and vocal resonance were absent on the affected side. There had never been any complaint of pain, nor was there any history of the boy's having caught cold or of having suffered from any of the fevers. Some weeks before he had fallen upon his right side, but there seemed to be no connection between the accident and the advent of the symptoms.

The temperature was normal; pulse 100; respirations 50. No sign of dyspnœa, but sleep is much disturbed. Heart not displaced; sounds normal; no cough; appetite capricious; bowels regular.

Under the circumstances, the diagnosis of pleurisy with effusion was almost unavoidable. We are aware how frequently in children a pleurisy gives rise to no urgent symptoms until effusion begins to cause dyspnœa; in fact, in out-patient practice amongst children it is at this stage that the disease most commonly presents itself.

April 17th.—The percussion note is now flat over the whole right chest. General condition excellent; dyspnœa not urgent. In the presence of Dr. George Ross I aspirated below the angle of the scapula, but withdrew nothing but a few drops of apparently pure blood.

April 19th.—Condition unchanged. With a hypodermic needle withdrew a few drops of blood, but subsequently, with an aspirator needle, about an ounce of blood was obtained. The fluid was examined by Dr. Wyatt Johnston, pathologist, of the Montreal General Hospital, who informed me that the fluid was not pure blood. In the evening the respirations were 42. No pain, but great restlessness and dyspnœa.

April 25th.—Dyspnœa becoming more urgent; sleep disturbed. Enlargement of the abdominal and thoracic veins is becoming evident. In mid-line a large one is evident, beginning near the umbilicus and extending to the ensiform appendix, where it disappears. In the root of the neck there are also several enlarged veins. The patient assumes alternately two positions, one sitting upright, the other lying at full length upon the diseased side.

Malignant disease of the lung then came to be regarded as the probable condition present. Varicosity of the thoracic veins, especially when unilateral, points markedly to the presence of a malignant growth. Full fifty years ago this clinical observation was made, and it will be found to be a most reliable distinction. An empyema or a serous effusion in the chest will not produce varicosity of the abdominal and thoracic veins even when the distension is very great and has lasted a very long time. Another withdrawal of fluid was now attempted, inasmuch as death from mere pressure was now imminent. This time about two and a half ounces of bright blood flowed into the aspirator. Alarming syncope followed the operation. The lips became blanched and yawning set in, lasting upwards of half an hour.

May 5th.—Condition very low. Orthopnœa persistent. Pressure signs increasing. Very considerable œdema of the right side of the face and neck, and of the right arm and leg, was present. Further evidence of the presence of malignant disease of the lung was afforded by inspection to-day. There is distinct bulging of the lower axillary region of the affected side, while the upper part of the chest is becoming narrower, or, at all events, is not increasing proportionately to the lower part. Over this area now becoming prominent the skin has a pale, glazed appearance, and is traversed by several prominent but not distended veins, but there is no appearance of inflammation or suppuration about it. The general condition is desperate. Dyspnœa most urgent and debility extreme. At this stage the patient was seen by Dr. Kingston, in consultation with me, and the diagnosis concurred in.

May 7th.—The œdema of the right side is disappearing. At times there is a slight cough, but no expectoration. No alteration in the pupils; no temperature elevation beyond 99°. Urine healthy throughout.

May 14th.—Death from exhaustion occurred to-day.

Autopsy.—The body was examined by Dr. Kenneth Cameron and myself eight hours after death. Much emaciation. Heart displaced to the left. Right pleura adherent throughout the chest wall. Right lung large and prominent, inseparable from parietes, its substance for the most part broken up, pulpy and diffluent, and deep red in color. Throughout its structure there were hardened masses attached to the diaphragmatic pleura and to the walls of the thorax. Of these masses one was as large as a turkey's egg, and firmly adherent to the upper surface of diaphragm. A section showed a homogeneous structure cutting like potato, but of greater toughness. Owing to the unwelcome presence of the boy's father, we were unable to take away the whole lung, as would have been desirable; but small sections of the various parts of the mass were removed for microscopic examination. No space contained fluid, but the aspirator needle used during life had reached this diffluent, stringy substance, and had thus been enabled to withdraw small quantities of blood. The growth in the lower part of the lung had, moreover, displaced downward the liver.

No evidence of disease was discovered in any part of the body.

The microscopic examination proved that the disease was lymphosarcoma.

ARTICLE VI.

A CHAPTER FROM LIFE AS IT OCCURRED THIRTY YEARS AGO.

By R. B. MOREHEAD, M.D., Morgantown, Kentucky.

On the 28th day of November, 1858, after a tiresome ride of several miles through a cold rain, I reached my home in the country, wet, tired, cold and hungry, about 4.15 P. M. Passing my hitching-post, at my front gate, I rode direct to my barn; where I was engaged in divesting myself of my McIntosh and leggings, preparatory to stripping, stabling, and feeding my tired horse, when I was confronted by a messenger, asking me to go about three miles across the river to see Mrs. F——. Remembering that I would have to go most of the way in a small canoe across a strong current and through a dense forest, and that night might possibly overtake us before we could cross the backwaters, I began to make excuses. I remembered that Mr. F—— had suffered a lengthy account to accumulate upon my ledgers, and had failed to comply with divers promises at sundry times to diminish the length of said account, by rendering aid and assistance at harvest and haying time, and further knowing the hardships and inconveniences Mrs. F. was accustomed to, I at once decided that I would *not* go. So excusing myself as best I could to my own conscience, I advised Mr. F—— to seek the assistance of an active, and reasonably safe midwife in the neighborhood, known as "Aunt Franky," recommending her skill very highly, and furnishing a horse for her to ride to the near edge of the back waters very cheerfully! Feeling that I had shrewdly escaped a dangerous trip and disagreeable night, I repaired to my house, and to the enjoyment of a roaring wood-fire, a warm supper, and the company of my devoted wife and little children. A hearty meal, with the soothing influence of the pattering rain against the window shutters, aided by the cordial solicitations of my little two and a half year old boy, to share the largest part of his "little bed," all conspired to place me beyond the corroding anxieties of a doctor's life. But alas! my sweet slumbers and heavenly dreams were soon disturbed by some one hallooing at the gate. What is wanted? "Aunt Franky says for the doctor to come over where she is without fail?" was the response. There was no use trying to excuse myself. Every doctor who has had much experience knows very well that there are certain calls that must be responded to; this was one of that class, Aunt Franky said for me to come, and come hastily; and Aunt Franky has influence with influential people, so there was no escape. Donning my waterproofs and providing myself with some candles, lanterns and matches, kissing my wife and babies, I set forth upon the perilous adventure of crossing Green River at high tide on one of the darkest nights that ever closed around this earth. Walking to the edge of the back-waters, we boarded our canoe and launched forth among the floating debris and standing timbers, swaying grapevines across the swift current, to find the other shore. Placing myself with lantern in the bow, we slowly worked our way through drifts and around rock heaps, a distance of about two miles to a point of land from which we could walk the remaining distance. At midnight we reached our destination. A newly erected cabin, of round poles about seven feet high, to the eaves, sixteen feet each way, a roof of new split boards that proved to be rain proof, for which we were very thankful; the floor was partly of puncheous, and partly of rails. The chimney had been commenced on the east side, but for some unexplained reason had been abandoned soon after cutting out the space in the wall, no sign of a hearth was yet manifest; two doors opposite each other, on the north and south sides of the building, without shutters, made egress and ingress convenient and easy. A few rough boards fastened over the spaces between the poles on the north side, served the useful purpose of obstructing the speed of the wind as it came hurrying past. An ancient quilt stretched across the north door supplied in some degree the place of a shutter. The open spaces and door on the south answered all necessity for ventilation. The south door was somewhat obstructed, however, by the head and horns of an aged cow, who wore, we supposed for ornament, a small bell, fastened around her neck by the mutual and reciprocal assistance of a trace chain, and a cord of leather cut from an old bootleg. She stood very patiently at the door, quietly sheltering as much of herself as was consistant with the etiquette of the occasion. In the northwest corner of the room was a bedstead extemporized for the important occasion; a dogwood fork had been sunk in the ground before the floor had been made, at the proper distance from each wall to make ordinary dimensions of a bed. Upon that rude stead was a still ruder tick made of various material, into which the outer covering of coffee sack and antiquated gunny bags largely entered; inside of that tick was straw, shucks, leaves and grass, in various proportions. Upon the top of all that was our patient—a woman, about twenty-two years old, fair skin, sore eyes of pale blue, red hair, and a well-developed muscular system. Her teeth were badly decayed, and her breath bore the pungent odors of tobacco smoke, and she lay in the agonizing throes of her first confinement.

Beside the bed stood Aunt Franky, holding in one hand a small torch of dry splinters, letting fall a dim light upon the distorted features of our unfortunate patient. Like an angel of mercy she had stood thus alone and watched the struggle with death, while the husband and I were struggling with the winds and waves trying to give some assistance. "What sort of case?" I inquired. Aunt Franky replied, "Wait a few minutes, when you can see for yourself." In about five minutes I saw one of the most frightful convulsions that I ever beheld! Aunt Franky handed me a stick of soft wood, which she had been using between her teeth, which I discovered was deeply indented. As soon as the convulsion subsided, I hastened to make a digital examination, when I discovered a vertex presentation, but the head still in the superior strait; the os uteri but slightly dilated, the vagina hot and dry; and the rectum enormously distended and empacted with hardened fæces, a severe convulsion accompanying each returning pain. Upon the subsidence of the pain and convulsion, the woman sank into a state of profound coma, with steterous breathing and loss of consciousness; pulse small and quick; extremities cold. Now, here I was—in a dilemma, sure enough! No syringe to be had; not a dose of medicine could be swallowed; no chloroform; no croton oil; no belladonna; no possible chance of relieving rectum, without which the woman must die. I made an effort to introduce my hand into the vagina and press the contents of the rectum down; but, a paroxysm coming on, I desisted. I explained the situation as best I could, held a hurried consultation with Aunt Franky and started the man out to find a syringe, if possible. The pains and convulsions continued to increase in frequency and severity, until just before the dawn of day. While the rain and sleet fell in a perfect storm; the wind sighed a sad requiem through the tall, leafless trees; the old quilt flapped and fluttered in keeping with the wind; and the old cow moaned a sorrowful sigh of melancholy sympathy, our patient breathed her last, undelivered!—unaided, "unhonored and unsung!"

Now a few comments on this case. Had I gone, when first called, I could have sent back to my office for such articles as I most needed, and possibly have saved the life of the woman. Hence, when you are called to see a parturient woman, go, and go immediately. Secondly, go prepared for any emergency. The man who practices obstetrics, should at all times be ready to meet the gravest contingencies. In conclusion let me ask this simple question: Would I, under all the circumstances and surroundings, have been justified in undertaking the operation of the Cæsarian section in order to save the child, with no assistant but an old blind granny woman and no instrument but a barlow knife?

ARTICLE VII.

REPORT OF A CASE OF EXTRA-UTERINE PREGNANCY.

By AVERY SEGUR, M.D., Brooklyn.*

Mrs. ——, about 35 years of age, married about 15 years, on the 11th of November, 1887, while going about the city of New York, was suddenly seized with pain in the lower portion of the abdomen. She was a very resolute woman and much accustomed to pain, but her endurance was exhausted when inside her own doors in Brooklyn, and she fell to the floor prostrated. She was unwilling to have a physician called, and I did not see her until two days later, when her improving condition, with the history of the attack, gave no definite suggestions of a diagnosis. Later in the week, she was able to sit up and see her friends. On the 19th, while sitting at stool, she was again seized with the pain and I was immediately called. I found her almost in collapse, and for hours hypodermic injections of morphine and whiskey were used to sustain her. The pain was most intense in the pelvis, but extended above in the abdomen and into the right hypochondrium.

The next day there was moderate abdominal pain, and distention and very acute tenderness most marked in hypogastrium, especially to the left of the median line. Nausea prevented the taking of food. The urine was passed with much suffering. There was moderate rise of temperature and pulse.

Dr. Skene now saw the patient. The local examination gave great pain and was not final.

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* Read before the King's County Medical Association, May 1, 1888.

Beside tenderness, formations were recognized: 1st, of a suspected neoplasm, and 2d, hæmorrhage,—both in left broad ligament.

Further examination was deferred until subsidence of the acute inflammatory symptoms. Progress in this direction was made until the 14th December, when more acute pain, nausea and aggravation of local symptoms were followed by a menstrual flow, and in a few days by a membranous formation, which Dr. Skene recognized as almost certain evidence of extra-uterine pregnancy.

Her menstrual history had been as follows:

Had always suffered severely with dysmenorrhœa; never pregnant; had not been unwell for three months. But the menses had, on a previous occasion, been absent as long. There was no history of morning sickness and no mammary changes.

There was now easily appreciated some enlargement in the hypogastrium to the right of median line, and an elastic tumor was distinctly touched *per vaginam* in the left broad ligament. The distention, rigidity and tenderness due to peritonitis still prevented thorough exploration, which was deferred until the progress of the case should, as foreseen, require a laparotomy at once exploratory and remedial.

The constant pain requiring opium,—recurring paroxysms of severe, prostrating pain,—the irritability of the stomach, which often prevented nutrition,—the distended and inactive bowels,—febrile movement,—loss of sleep and rest, soon left no alternative, and laparotomy was performed on the 20th December, 1887, by Dr. Skene.

The patient required frequent hypodermic injections of whiskey to sustain her while under ether, and after the operation morphine and whiskey were thus used; intra-venous saline injections were followed by temporary improvement. In spite of all, the patient died exhausted after about fourteen hours. The Operation: adhesions, old as well as recent,—limited exploration and demonstration, and, together with the previously weakened resources of the patient, rendered a successful operative procedure impossible.

The right wall of the uterus was reached, and was the seat of a fibroid tumor; in the left pelvis was found a large collection of coagula, bound by limiting walls, to which the broad ligament contributed; very great vascularity of involved peritoneum.

The old and extensive adhesions, the predominating factor in this history, are accounted for by a previous illness as follows: Early in the winter of 1886 Mrs. —— was confined to bed, and suffered for months abdominal pain and tenderness, which her physician diagnosticated "intestinal rheumatism." It was in May following that I was first called to the case as one of "nervous prostration." I found not only a nervous invalid, but the patient had constant nausea, was pallid with innutrition and inefficient circulation, and too weak to rise from bed.

It was only after two months of Weir Mitchell's plan of treatment that a comparative restoration of nutrition and strength was established.

Then and up to the date of November 11, activity, color and nutrition had been advancing; but doubtless there was not much reserve of nervous or nutritive power, and the weeks of pain which followed had so exhausted the forces of the patient that there was no recuperative rally after the shock of the operation.

I wish to call attention to one other circumstance not hitherto noted:

During my early treatment I had been so much impressed with the history of dysmenorrhœa given that I had directed daily hot uterine douches to be administered, in the hope that this measure, together with massage and prolonged rest in bed, would so change the local nutrition that an alleviation in this respect might result, although, as a vaginal examination was refused, I could not know the causative conditions.

Two comparatively painless periods ensued and conception, which possibly may be attributed to the douches.

It was impossible to obtain an autopsy.

Brooklyn, N. Y.

ARTICLE VIII.

REPORT OF A CASE OF EXTRA-UTERINE PREGNANCY.

By S. H. BENTON, M.D., Brooklyn.*

It has been thought that a report of the following case, which I have had for some time and still have under observation, would be of interest to the Fellows at this meeting. This, then, is my apology for trespassing upon your time.

It is not my purpose to extend my remarks much beyond the simple report of my case, as the gentlemen who have preceded me, or are to follow, will have covered the field of extra-uterine pregnancy, to your entire satisfaction.

If my case does not absolutely prove to your minds the existence of a certain condition suspected, its history does suggest to the writer a chain of symptoms that are at least suspicious, and while any departure from a normal pregnancy is to be deplored, the early recognition of such a condition is greatly desired by the physician, as thereby certain measures can be used to prevent the opening of the abdominal cavity, and the much dreaded results that are liable to occur from such heroic measures, Mr. Lawson Tait to the contrary notwithstanding.

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* Read before the Kings County Medical Association, May 1, 1888.

If it be true that the detection of extra-uterine fœtation in the first weeks or months of its existence will benefit the attendant, and thereby the patient, and that certain operative or therapeutical measures can be used to destroy life in the ovum, without injury to the woman, then it must follow that all cases should be carefully recorded and duly reported; so as that the general practitioner will become more conversant with the early symptoms of this much dreaded condition of affairs. This thought must appeal to the minds of experienced obstetricians when they notice the notable brevity with which the subject is handled in our works on midwifery, with a possible exception by Lusk.

Mrs. M——, age twenty-five, consulted me at my office during the latter part of December, 1887, for nausea, and stated that she thought she was pregnant, but was not sure as the present symptoms were new to her, never having been pregnant without she was so at the present time. She told me her abdomen was rapidly enlarging. That the breasts were much larger than heretofore, and that there were darting pains radiating through them. The nipples were tender and the areola very dark. A disagreeable excess of saliva, constant morning sickness, and a desire to urinate often. As these symptoms were suggestive of pregnancy, I had no hesitancy of so assuring her, which gave her great delight, as both her husband and herself were desirous of children. She had always been regular in her menses, during the five years of her married life as well as before marriage, and usually sick five and six days, with a copious flow. The first irregularity in her menses occurred on last Thanksgiving day, when she was sick only two days very slightly. I prescribed for her and did not hear from her again until I was called to see her on the sixth of January. Two days before my visit she had a slight sanguinous discharge, which soon ceased. This menstruation was twelve days over the month. A digital examination was made at this visit and revealed an enlargement of the abdomen. Uterus enlarged to about the size of a ten weeks' pregnancy. Os patulent, but not dilated. She had had slight painful sensations in the left illiac region, but nothing like labor pains. Thinking that, perhaps, she might be threatened with a miscarriage, I advised her accordingly, and did not hear from her until February 20. She had in the meantime flowed four days, beginning on the fourth of February.

There was nothing peculiar about this period, only its slight amount and light color. No clots were passed nor were there any evidences of a miscarriage, the symptoms of pregnancy continuing as before. The day before this visit in the afternoon, she was suddenly taken with a violent pain in the lower abdomen, which she described as being the most violent she had ever before experienced, which lasted about one hour. Hot applications were applied and gin administered. This pain was followed with extreme prostration. When I saw her the next morning she gave evidence of suffering, being pale and haggard. The abdomen tympanitic and tender, pulse 100 and temperature 103°. These symptoms continued a couple of days, with no repetition of pain, the pulse and temperature dropped to normal, and she continued along about as before for a couple of weeks.

On February 25th, she passed several quite large pieces of membrane, which unfortunately I did not see, the patient thinking they were of no consequence to any one had thrown them away. From her description I should say they were from a half to an inch and a half in size; the largest ones, with several smaller ones, tough and looked like skin. She had never passed anything like it before, which caused her to examine the pieces with great care.

My anxiety for my patient had for some time been growing intense, and I resolved to make such an examination as would, if possible, clear up the case. By digital examination I found what I had not previously detected—a tumor or growth in the left illiac space, which was irregular in shape, semi-solid and slightly sensitive. It seemed to be attached to the left ovarian tube or the uterus, which, I was unable to determine. It seemed to be about the size of an orange. The os was patulous, and I could not make out any evidence of celulitis with the finger.

A speculum was introduced and a probe passed into the uterus, which measured about three and a-half inches. The uterus was found to be empty, and while the probe passed easily there was no evidence that the cervix had been unduly dilated. Concluding that my patient had not miscarried, and the womb empty, there were only two conditions in the case which suggested themselves to me—either an hermato-salpingitis of the left tube or an extra-uterine pregnancy.

Believing the symptoms more in favor of the latter, I immediately applied electricity, the interrupted current being used, one pole applied over the growth and the other through a trivalve speculum, with a rectal ball electrode pressed against the tumor. A mild current was first used, which was suddenly increased to quite a shock.

This treatment was continued for about four weeks, with an interval of from two to four days between the *seances*.

The enlargement of the abdomen and breasts began to go down, and in fact all the symptoms of pregnancy gradually disappeared—a back-ache remaining which had all along given her much annoyance. On March 16th had a slight discharge in the morning and passed a considerable quantity of membrane, some of which was preserved and examined microscopically by Dr. Browning and the writer and found to be decidua. (Specimen exhibited to Society).

My friend Dr. McCollom saw this case a couple of times in consultation, and expressed the opinion that, as far as a case could be made out, without the convincing proof of an operation or autopsy, this was a case of extra-uterine fœtation.

I still have the woman under treatment, and she is slowly regaining her health. The pains in the lower abdomen from which she had suffered for several months have about ceased. The uterus is regaining its normal size and all the symptoms of pregnancy have disappeared. The cyst or tumor is becoming firmer and contracting slowly. No electricity has been used for three weeks. It was, perhaps, used longer than absolutcly necessary, but as I reasoned that it could do no harm I continued its use about one month, until I could notice a perceptible change in the growth and in her general symptoms, all of which I have noted to my satisfaction.

If my case was one of extra-uterine pregnancy, I feel satisfied that electrical fœticide was the proper method to adopt, even if by so doing Mr. Tate is provoked to laughter by its ridiculousness.

It may be that the placenta may continue to grow to an alarming size or the cyst may suppurate and give trouble, but should any alarming symptoms be developed, I am prepared to open the abdomen and remove the offending trouble.

This case presents several points worthy of note in favor of extra-uterine pregnancy.

1st.—The irregularity as well as peculiarity of the discharge from the uterus.

2d.—The presence of all the recognized symptoms of pregnancy, the uterus being empty, but unduly enlarged.

3d.—The shedding of decidual membrane, which had never before occurred.

4th.—The presence of a distinct and well-defined growth in or near the left tube.

5th.—The cessation of all the symptoms of pregnancy, contraction of the tumor and generally improved condition of the patient, after use of electricity for a few weeks.

ARTICLE IX.

Report of a Case of Extra-Uterine Pregnancy Complicated With Typhoid Fever. Treatment by Electricity—Recovery.

By Julius C. Bierwirth, M. D.*

On April 16, 1887, at 4 A. M., I was called in haste to see Mrs. B., aged twenty, who, I was informed was suffering from severe abdominal cramps. Upon my arrival, the patient told me that, for the past two or three days she had occasionally had these same severe pains, which came on suddenly and were of a tearing excruciating character, starting in the right groin and passing down the inner aspect of the right thigh and leg. During the night they had much increased in frequency and severity. A careful external examinatoin of the abdomen revealed nothing except a slight degree of tympanitis and some tenderness on pressure over the right ovary. I gave her a quarter of a grain of morphia and ordered rest in bed for the following day. On the 18th I saw her again and was told that she had been free from pain after the hypodermic, until the morning of that day, when the paroxyms had recurred with great. severity. I now examined her with more care and found her condition to be as follows: Temperature, 99⅖; pulse, 86, soft and rather full; tongue furred; dull headache; abdomen more tympanitic than at my first visit and some tenderness over the ileo-cœcal valve; has had epistaxis several times during the past week. Bimanual examination of her pelvic organs reveals a tumor on the right side of the uterus, in the region of the Fallopian tube, tense, globular in shape, about 1½ inches in diameter, freely movable and moderately painful upon manipulation. The uterus is a little pushed to the left of the median line, somewhat antiflexed, the cervix soft and velvety. Both ovaries could be mapped out and felt all right. Upon questioning she gave me the following history of herself: she had always enjoyed fair health, and had been married about a year. Some members of her family had died of consumption, and she had been troubled with spitting of blood a few years ago. She had never been pregnant, had had no miscarriage and had menstruated regularly. Her last menstruation began on March 30, and ended April 5, the flow being about normal in quantity but accompanied by

*Read before the Kings County Medical Association, May 1, 1888.

more pain than on former occasions. During the night of April 6 to April 7 the flow came on again rather profuse, and with a great deal of bearing down pain. The bleeding continued slightly during the day of the 7th, and ceased again on the 8th. From the 8th to the 12th she suffered from irregular pains on the right side, of more or less severity, and accompanied by small discharges of blood. On the 12th she had the first decided paroxysm of severe pain on the right side, in the region of the ovary, the pain shooting down the inner side of thigh and leg. From the 12th to the 16th she had several of these sharp attacks.

Her general condition, at this second visit, was good. She was a woman of slight build, weighing not more than 90 lbs, and of a calm placid temperament. She complained of some headache and nausea, and said that she had vomited several times the past few days. Her bowels had been constipated for a week past and were moved each day by enema.

From the results of the above history and the examination, I strongly suspected extra-uterine pregnancy of from four to six weeks duration, and typhoid fever. I limited her diet to milk and broths, gave her small doses of opium to quiet her and control the pains, and ordered a poultice kept over the side of the pain.

From April 18th to 23d her condition remained about the same. She had occasional paroxysms of the same sharp pain, and there was a very small discharge of blood nearly all the time. The temperature ranged between 99½° and 100½° and the pulse was about 90. On the 23d her condition changed. The discharge of blood from the vagina became profuse, and the attacks of pain were more severe and more frequent, and external pressure over the tumor caused a good deal of pain, the above-described abdominal symptoms were all more marked, and there were added, decided gurgling over the ileo-cœcal valve and a few rose-colored spots around the unbilicus; epistaxis had also recurred several times. The profuse discharge of blood ceased again on the 24th and the very small "dribbeling" of blood returned as before, with occasional attacks of more or less severe pain. April 27th Dr. Charles Jewett saw the patient in consultation and found the following condition: uterus a little fuller than normal, slightly pushed to the left and antiflexed, cervix softened and velvety, a tumor to the right of the uterus, in the region of the tube, about 1½ inches in diameter, tense and elastic, freely movable, tender upon manipulation; speculum examination shows the mucous membrane of the vagina about normal in appearance, cervix eroded and enlarged. The uterine sound shows the length of the uterine cavity about normal, or perhaps a little deeper than normal, the curette, gently introduced to see if the uterine cavity is empty, brings away a few shreds, looking like fibrin. The breasts are not changed, no areola and no enlargement.

From this examination, and the given history, Dr. Jewett regarded the case as very suspicious, but did not feel inclined to make a positive diagnosis of tubal pregnancy. He recommended the application of electricity, the Faradic current of a one-cell battery for ten minutes daily, and thought that, if the tumor diminished in size and disappeared under its use, the diagnosis would be confirmed.

Not being able to get a proper electrode for use in the vagina ready-made, I had one constructed by Tiemann & Co., consisting of an insulated copper wire with a shallow, cup-shaped plate at one end, and a set screw at the other. Owing to the delay in manufacturing this instrument, the electricity was not applied until April 30th. I examined the patient again on this day, and found the tumor larger than at my last examination about a week ago, and it could now be felt quite distinctly through the abdominal wall.

For the first two days I used a mild current of a Gaiffe battery by placing the above-described electrode in the vagina, the cup-shaped plate resting directly under the tumor, and using a common sponge electrode over the tumor on the abdominal wall. On May 2d and 3d I used a Kidder battery, the Gaiffe having become disordered, and on May 4th I substituted a one-cell McIntosh battery, always using the primary current, and increasing the sitting on the third day from five to ten minutes.

Since the second day of the electricity the patient had not had any of the severe attacks of pain, but on May 4th she complained of pain on the left side of the uterus of a dull and constant character. Examining her per vaginam on this day, I found the tumor somewhat smaller, not so tense as before and decidedly less tender; the uterus and left ovary, however, were quite tender to the touch. On May 6th I examined her again and found the tumor diminished about one-third, quite flaccid and less tender; the uterus and left ovary were more painful than on May 4th. The electricity was continued until May 8th, inclusive, and then stopped

Examination on May 9th showed the tumor reduced about one-half, flaccid and but slightly tender upon manipulation. The uterus on the left side and behind was quite tender, and a swelling had appeared at these places, enlarging the uterus about one inch; the left ovary was also very tender and enlarged. Hot douches internally and counter-irritants externally relieved the pain very much. On May

20th, ten days after the last examination, I found the tumor much smaller, flaccid, and with scarcely any pain upon manipulation. The swelling and pain in the uterus and left ovary had also decidedly lessened, and she felt quite comfortable as regarded her pelvic organs. For a few days during the past week she had a profuse leucorrhœa, which, however, promptly yielded to douching. She had had no recurrence of the sharp pains since May 2d, and no discharge of blood. On June 1st only a small, hard nodule of about a quarter of an inch in diameter could be felt at the site of the tumor, and the inflammation of the uterus and ovary had entirely subsided.

The typhoid fever ran a mild course of about seven weeks. The temperature was at no time higher than 102½°, and reached this point only three times. Its course was very irregular, on many days suddenly dropping to normal, and then suddenly or gradually rising again to 100° or 101°. The pulse at no time required large doses of alcohol, but remained fair throughout the disease. The bowels were constipated most of the time and had to be moved by enema, and only on a few days did a slight diarrhœa supervene. There were no hæmorrhages from the bowels. About the fourth week a mild acute nephritis set in, the urine became diminished, was of high specific gravity, and contained about 20 per cent., by measure, of albumen, some casts and epithelial cells. This gradually improved as she convalesced from the fever, and had entirely disappeared by the middle of June, when she left for the country. A few days ago I saw the patient again, and she informed me that she had enjoyed perfect health since last June. I examined her per vaginam and found no trace left of the tumor. The ovaries seemed normal, and the uterus seemed normal except for the antiflexion.

The case is of interest on account of the unusual complication of two such serious conditions. Although having had some doubts in the beginning as to the diagnosis of the tubal pregnancy, I think, upon reviewing the entire history, I am justified in calling the case one of extra-uterine pregnancy of about four to six weeks' duration. The changes in the uterus at this time are not pronounced enough to aid in the diagnosis, and there are no mammary changes at such an early period. Vomiting was present, but that may have been due to the typhoid fever. The clinical history of the case shows that the tumor was not of inflammatory origin, and its subsequent course under the application of electricity, I think, confirms the diagnosis.

137 *Montague Street, Brooklyn.*

SELECTIONS.

REMARKS ON THE TECHNIQUE OF VAGINAL HYSTERECTOMY. By A. Martin, M.D., Berlin.

Vaginal hysterectomy, whether done for cancer or any other reason, is not so familiar to the American gynæcologist as it is to his German *confrère*. It is an operation done in the depth of the vagina, and naturally much more difficult than any other one performed on the outside of the genital organs. The possibility of removing the uterus from the floor of the pelvis has been established by experiment, and the feasibility of performing the operation on the living has been so often demonstrated, and with such favorable results, that there can be no doubt that this operation belongs to the legitimate procedures in gynæcology. When I said, in my paper read before the Washington Congress, that vaginal hysterectomy has proved to be an operation possibly allowed to every gynæcologist, and not only to the experienced, high-standing leaders in the profession, I meant to add that this remark was not intended to include every general practitioner and amateur gynæcologist. It requires a certain amount of experience to manipulate in the depth of the vagina, some knowledge of the anatomy of the parts and surgical dexterity. In Germany we are accustomed to apply the title of gynæcologist to those who have passed a clinical school, attached as assistant to a university or similar institution; and the number of self-made and self-taught men is decreasing in accordance with the development of this branch of medicine.

Even when only legitimate gynæcologists begin to undertake vaginal hysterectomy, they cannot neglect the acquisition of individual experience, and often must pay dearly for their skill. In order to facilitate matters to those who still lack the necessary experience, I wish to make the following remarks:

It is of no special importance on which side of the uterus the detachment of the cervix from the fornix vaginæ is begun. We can open the floor of the pelvis from the sides, in front or behind, and can safely reach the peritoneum and detach the cervix. At all events, the operation should be undertaken only when the uterus is freely movable, so as to allow stretching of the field of denudation. I myself prefer to open the posterior fornix, because at this point we generally reach the peritoneum at an earlier time, and I feel very easy as soon as I can introduce my finger into the peritoneal cavity and control by this means all further steps. I unite the vagina to the peritoneum by sutures introduced at some distance from the edge of the wound surface, thus controlling the bleeding as well as the gaping of the lymph spaces of the pelvis. Through this opening I perform the preliminary ligation of the pelvic floor on both sides, as may be seen in my book on the "Pathology and Therapeutics of the Diseases of Women," 1887.

The detachment of the lateral fornix must reach the side of the body of the uterus; the cervix must be thoroughly freed. I generally finish one side before I proceed with the other.

When the cervix has been freed from behind and both sides in this manner, I enter on the detachment of the bladder. This step has been judged very differently by various surgeons. Even after having done the operation two hundred times, I never feel quite free from embarrassment at this point of the procedure. I join the edges of the lateral wound by a horizontal incision which follows the line of detachment of the anterior fornix to the cervix. The vagina is cut through at this place; the detachment of the bladder is effected with the fingers. The extent of the connection between bladder and cervix varies remarkably. Sometimes we see the peritoneum of the anterior cul-de-sac coming down to it within half an inch; in other instances it reaches only up to half the height of the body of the uterus. This fact shows that a great amount of care is required in the detachment of the bladder. In proceeding as shown I have not injured this viscus except in two cases during the summer of 1887. In these cases the neoplasm had infected the posterior wall of the bladder, and in endeavoring to remove all the diseased tissue I removed also a part of this wall. Other operators report having cut into the bladder or opened the ureters. I have observed only one instance of accidental needle puncture, and the patient in this case never suffered any inconvenience. In the two cases mentioned above the bladder had a free opening. This opening, lying between the organ and the place formerly occupied by the cervix, could not be called a vesico-vaginal or vesico-uterine fistula; it formed a kind of vesico-peritoneal communication. In my first instance of this kind the uterus had been enlarged to the size at the fourth month of pregnancy, and the connection between bladder and uterus was quite extensive. The opening into the bladder, nevertheless, was reduced, even during the operation, by the natural contraction of the parts, which is remarkable in every case as soon as the uterus is removed. As the operation had been difficult, I did not wish to prolong it by the suture of the bladder, and therefore introduced a drainage-tube, as I usually do, insuring the free escape of the urine, and had the patient brought to bed. The recovery was the most astonishing point. The patient, who was very anæmic from profuse hæmorrhages and sufferings, recovered, although she continued vomiting for eight days. The urine never troubled her. I removed the drainage-tube on the twenty-first day, when the patient was out of bed. Some time before this she reported that she could retain some urine for half an hour. A week later she retained urine for nearly two hours, and lost control over the bladder only in the case of certain motions and positions. The patient left my house eight weeks after the operation, having extraordinary control over the bladder, and declined to have any further local treatment, although there was still a small opening in the cicatrix of the fornix, through which, by pressing, a small amount of urine escaped. The operation was done towards the end of June, 1887, and I hope that the definite closure of the bladder will be effected by cicatricial contraction

The other case was operated on during the first days of August of the present year. The opening into the bladder had the same position as in the preceding case; but as the patient was not so weak and anæmic, I at once united the edges of the bladder and the border of the peritoneum to the vaginal fornix. This was healed when the patient left my house, three weeks after the operation; although the patient complained still of some discomfort in the bladder, which could retain only a small amount of urine, some tenesmus being felt whenever a larger quantity accumulated. The ureters I never saw in my operations; they enter the bladder so close to the pubic arch and far from the cervix that they can hardly be injured when we free the cervix at its attachment to the pelvic floor.

The final removal of the uterus is performed by some operations after the fundus uteri has been everted; by others, without eversion. If the uterus is not very large and can be brought out easily, I do not evert it. If it is large, I evert it through the posterior opening; others prefer the anterior opening. This step of the operation sometimes causes great difficulty, and I have devised an instrument for everting the uterus from within; for a long time past I have ceased using this instrument and succeed in everting the organ with Muzeux's or the bullet forceps, which latter I chiefly rely on. I push the cervix forward and upward, expand the posterior hollow of the fornix with a plain, flat hook, and catch the posterior surface of the body; this is brought down, and as fast as the posterior surface comes into view, other forceps are inserted until the fundus passes the hollow.

Then the Fallopian tubes and upper parts of the broad ligaments come into view. It is very important, if possible, to remove the whole tubes with the ovaries. In order to accomplish this, the everted uterus must be pushed aside; with the finger I catch the ovary and the tube, thus stretching the lateral part of the broad ligament, and into this the ligatures are inserted. I try to attach with these same ligatures the rest of the ligament to the vaginal fornix. When the ligament is thoroughly transfixed, I detach the uterus, tube, and ovary of that side; the same is done on the other side.

If there is any bleeding, I catch the arteries in question with the forceps and ligate them; or I ligate the whole surrounding tissue. I always try to attach these bleeding surfaces to the edge of the vagina. Frequently I am asked if the intestines do not prolapse during the operation. This happens but very rarely, and if it does occur, I introduce a sponge on a holder, thus retaining the intestines in Douglas' pouch. Perhaps the reason why intestinal prolapse happens to me so seldom is that I exert no pressure from above.

The opening in the floor of the pelvis is diminished at once, so that, when the edges of the wound are tied, it is frequently difficult to find it. Should the opening remain large—an unusual occurrence—it can be reduced in size by uniting the edges of the vagina.

Some operators close this wound at once. I cannot make up my mind to do so, since I continue using the drainage tube in these cases.

I apply a smooth India-rubber tube, the end of which must lie in Douglas' pouch. This tube is retained by the contraction of the edges of the opening, and I have never seen any discomfort arising from its presence. There is always some oozing of bloody secretion during the first days, and only when this is diminishing I remove the tube, generally about the seventh or eighth day after the operation. To guard against infection of the peritoneum, the outer end of the tube is surrounded with salicylated cotton. As regards after-treatment, it must be entirely expectant. If the patients cannot pass urine freely and spontaneously, it is drawn by catheter as long as necessary; generally the patients pass water from the first day without discomfort.

I avoid vaginal injections unless there are decomposed discharges. The washing out of the peritoneum seems of doubtful effect; I have not done it for a long time.

The bowels are moved on the fourth or fifth day. The patients are allowed to get up between the tenth and twelfth days. I generally do not inspect the cicatrix before the fourteenth day.

I have never seen an opening into the peritoneum; it had always closed. I begin to remove the sutures about the fourteenth day, at intervals of two or three days.

The cicatrix forms a short, tense line, towards which the fornix of the vagina contracts concentrically.

The general nourishment is arranged according to the course of the convalescence; as soon as the patients are out of bed and feel stronger, it must be remembered that they are entering on the climacteric period, and that congestions and similar troubles are to be expected. I therefore order early exercise, fresh air, and appropriate diet. Sexual intercourse should not be allowed before the end of three months.

CASE OF SUCCESSFUL SIMULTANEOUS TRIPLE AMPUTATION FOR RAILWAY INJURY, WITH REMARKS ON THE TECHNIQUE OF MULTIPLE AMPUTATION.* By John Ashhurst, Jr., M.D., Professor of Clinical Surgery in the University of Pennsylvania; Surgeon to the Pennsylvania and University Hospitals, Philadelphia.

The patient is brought before the College largely on account of the rareness of simultaneous triple major amputations. It is quite possible that some of the Fellows may not have had an opportunity of seeing such a case.

The patient is a Moor, twenty years of age. He was admitted to the University Hospital, November 28, 1887, having been run over on the Pennsylvania Railroad. I saw him within two hours after his admission. I found a compound comminuted fracture of the right leg, the laceration extending above the knee; complete avulsion of the left leg, the limb having been torn off in its lower third; and a compound fracture of a severe character of the right hand and wrist. There was also a compound fracture of the skull, involving the frontal bone. This, however, was an impacted fracture, of course without much depression, and did not require interference. In addition to these injuries, there were numerous brush-burns and contusions, some of a grave character. One upon the left buttock was so severe that the separation of the slough left a cavity fully two inches in depth. Notwithstanding these serious injuries, the patient's general condition was very good; he had reacted thoroughly, and his axillary temperature was 99° F. Under these circumstances, I felt justified in proceeding to the immediate removal of the injured limbs, and amputated successively the right thigh by the antero-posterior flap method; the left leg, about its middle, by a modified Sédillot's external flap operation, the modification consisting in making both flaps from without, inward, instead of cutting the external flap by transfixion; and the right forearm by an oval incision, making use of the uninjured skin of the back of the hand and wrist. Certain variations from the ordinary procedure in amputations I shall refer to when I come to speak of what I have ventured to term the technique of multiple amputations. After the operations were completed, the temperature had fallen only to 98° F. The patient had no bad symptom and rapidly recovered, and as you see him now all his wounds are perfectly healed, and he is entirely well.

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* Stenographic report of a verbal communication made to the College of Physicians, March 7, 1888.

I have collected some statistics of synchronous multiple amputations. I am able to find but one instance of *quadruple* synchronous amputation—a case in which the operations were done for frost-bite by Dr. George E. Jackson, of Dakota. There are several cases recorded of quadruple amputations, not synchronous, the one which approaches nearest to a synchronous operation being that of Champenois, a French surgeon, who amputated three limbs on one day, and the fourth a few days later.

Of synchronous triple amputation there have been reported four successful cases, not including that presented to-night; one by Dr. Köhler, of Schuylkill Haven, Pa.; one by Dr. Lowman, of Johnstown, Pa.; and two referred to by Dr. Agnew, in his *Surgery*, one occurring in the practice of Dr. Stone, of New Orleans, and the other in York, the name of the surgeon not being given. There are reported four or five triple amputations not synchronous. I have myself resorted to synchronous triple amputation in two cases. Several years ago, I had occasion to perform this operation, removing both legs and the right forearm of a man, aged forty-five years, of intemperate habits. The patient died on the tenth day, the fatal result being due rather to the visceral lesions resulting from alcoholism than to the operation.

Double amputations are comparatively numerous. I have personally performed fifteen such operations, this number not including two successful cases of double partial amputation of the feet. I have done fifteen double major amputations, of which five have ended in recovery. One of the patients who recovered, I had the honor of exhibiting to the College some years ago; the amputations in this case were through the right hip-joint and through the left leg. In the fatal cases, seven of the deaths occurred within less than one day, and were, therefore, the immediate result of the shock of the injury and of the operation. Three patients died, one in three days, one in four days, and the third in eighteen days. The latter would probably have recovered, but that he also had suppurative disease of the middle ear, which appeared to be the cause of the pyæmia which proved fatal; for when the stumps were examined, after death, they were found to be in good condition.

With regard to what I have termed the technique of multiple amputations, there are some points which my experience justifies me in urging upon surgeons as of importance in promoting success. In the first place, it is very important that the time occupied by the operations should be brief; that the operations should be done systematically, so as to keep the patient under the anæsthetic as short a time as possible. The next point, perhaps of even more importance, is to keep up the temperature of the patient during the operations. I have been led to think that this is, perhaps, of more importance than anything else. Of course, loss of blood must be scrupulously guarded against, and loss of blood directly causes loss of temperature. In this case hot cans were kept around the patient during the entire operation; and, in order to save time, I operated systematically, the tourniquet and Esmarch bandage being both employed to prevent any loss of blood. I began with the most serious injury, and this is, I think, a point of importance. It may happen that, after the removal of one limb, it will be found that further operation must be postponed on account of the patient's condition, and then it is, of course, better to leave him with the less severe injuries. In this case I began with the thigh. After amputating the limb, I secured the main vessels, which were readily found. I attempted to tie the arteries with catgut, but as the ligatures broke, I substituted silk, and, in order to save time, left both ends uncut. I next amputated the right leg, securing the vessels in the same manner, and then passed to the forearm. I then came back to the right thigh, screwed up the tourniquet and removed the Esmarch bandage, and secured all the vessels that required ligature, then passing to the other limbs in the same order as before. After the vessels had been secured in each case, a towel dipped into a hot antiseptic solution was placed between the flaps. The wounds were then dressed in the same order, and in this way the operation was completed in a comparatively short time.

The points which I have mentioned I believe to be of great importance, and I think that much of the disappointment of surgeons from these operations is due to a want of attention to these matters.

I should also say that, in order to preserve the bodily heat, I did not use irrigation during the amputations. I think that this often seriously reduces the temperature; and even in comparatively slight operations where it has been used, I have seen the temperature fall to 97° F., and even 95° F. I think that in any grave case, it is better to omit it, and to rely upon washing with hot antiseptic solutions before and after the operation. Also, the packing of wet towels around the seat of operation, as is very commonly done, tends to depress the temperature, and in grave cases should be omitted.

I think that it is to an observance of these precautions that I have owed success in this case, and in many other serious operations of various character.

THE USE OF THE HUMAN SKIN WHEN TANNED. — A short time ago, the Parisian press made a great noise over the pretended profanation of the remains of an executed criminal. A jail official, perhaps a little too obsequious to please his superiors, had the novel idea of presenting the chief of police with a piece of the criminal's skin, duly tanned and manufactured into an elegant card case. This tanning of the human skin is an old-time story. We all recall the bass-drum of Ziska that led the Hussites to victory, and the establishment of Meudon founded by the Committee of Public Safety for the carrying on of human skin tanning. We know that an impartial historian has done justice to this absurd fable imagined by malicious spirits to malign the memory of political adversaries.

Is it possible to tan human skin? No one has ever seriously doubted what has been said regarding this subject. We have seen this fact demonstrated outside the novels of Alexander Dumas and Ponson de Ferraile. As far back as 1775, Valmont de Bomaire claimed that tanning human skin was a common laboratory amusement. His recipe is very simple, as follows: " Macerate the skin for several days in a strong wash composed of alum, vitriol and common salt; dry in the shade, then give it the ordinary tanning bestowed on leather."

We are not aware that this recipe is always followed, as human skin tanning was known and practiced long before the French Revolution, which epoch the popular press seems particularly desirous to imitate. It is well known that the grandfather of Eugene Sue, author of the " Mysteries of Paris," presented the King of France with a pair of slippers made from a Christian's skin. It may be that the story that the celebrated Abbe Delille has handed down to posterity a copy of his translation of the *Georgics* bound in a virgin's skin is true. A young and ardent bibliomaniac, Aime Leroy, desiring to preserve the relics of the author of the French Virgil, obtained two pieces of skin from the epidermis of the illustrious author, and, after having the same tanned, had the precious author's skin bound on a volume of his own book, and kept as one of the most precious works in his collection. This book may still be seen in the library of a son and of first preserver—M. Leroy, a lawyer of Valenciennes. In 1796 another ardent bibliomaniac bound the philosophical opuscules of the Academician Picard in the author's skin. We must avow that this drowsy writer makes a rather sad figure in this curious costume. . . . .

In a professional tanners' journal we read: " Human flesh produces a very solid, thick and fine-grained leather." But this is neither clearly defined nor entirely scientific. Certainly tanners should have the last word. We have lately consulted M. Flandinette, a workman in the School of Medicine, for some information in regard to such matters; we do not know that discretion is a virtue; in this case, however, we must render homage to this estimable man, and we believe him to be honest; but he has forgotten the most elementary laws of common courtesy. We read in the *Figaro* of 1884 that this conservative employé of the School of Medicine had kept the skin from the right and left arms of the mysterious Campi in order to tan them, with which to bind a volume containing a supposed history of Campi's life and the scientific researches made on his body. This book has not been as yet exhibited to the morbid public. M. Flandinette refuses to be interviewed on this matter, and possibly shows some little wisdom, as Campi may have friends still living. M. Flandinette has too much modesty for such a vast intelligence.

It is a fact that the unfortunate Sodinet is cut up, and we have already announced the names of all those who have accepted fragments of his beautiful human epidermis. We can, therefore, fully appreciate the reason of M. Flandinette's *present silence.* We withhold the name of a very celebrated French surgeon, who recently died, although he is beyond the reach of the laws, and where the Parisian police never go. He had an odd idea before his death, this great hospital surgeon. He had always claimed at autopsies the skin of every tattooed patient, and carefully cut out the pictures on the skins. His own tattooed skin was added to the rest of the collection. Into whose hands has this curious and interesting collection fallen? Have the skins been tanned or are they in alcohol? But, perhaps, too close an inquiry might cause trouble for the faculty of medicine. When our time comes, we bequeath the skin from our posteriors to the Academy of France, and trust that the researches of Pasteur on hydrophobia may be bound therein.—*Journal de Médécine de Paris.*

CLINICAL LECTURE ON A SERIES OF CASES ILLUSTRATING SOME OF THE SURGICAL ASPECTS OF CONSTIPATION. Delivered at St. George's Hospital, by Warrington Haward, F.R.C.S. England, Surgeon to the Hospital.

Gentlemen—I wish to-day to call your attention to several cases illustrating the causes, effects and treatment of chronic constipation, and to make some remarks upon the subject from the surgical point of view.

Case 1.—In the Egremont ward there is a young and apparently healthy man. He gives a history of gradually increasing constipation for the past two or three years, the bowels acting sometimes every second day, but often only every third or fourth day. This he attributes to mere carelessness, and neglect to give the bowels the opportunity of evacuation. But during the last fortnight a fresh symptom has arisen, for which he comes to the hospital. It is this: that even when he feels the desire to defecate, he has great difficulty in obtaining a passage of fæces; so that, though the bowel feels full, he often gives up the attempt till next day; and this he is the more inclined to do because defecation is accompanied and followed by very severe pain. The pain radiates from the anus, is severe enough to make him feel sick and faint, and lasts from an hour to three hours after the bowels act. He begged me not to examine the bowel without an anæsthetic, as an attempt to do so had, he said, given him such great pain that he could not bear its repetition. The symptoms pointed so clearly to the presence of an ulcer of the anus that we deferred any examination till the bowels had been cleared by a dose of castor oil. Then he was placed under the influence of ether, and in the lithotomy position, and the rectum examined. The forefinger of each hand being introduced into the rectum, the anus was dilated by separating the fingers. We were thus able to see clearly an oval ulcer on the posterior aspect of the bowel, just within the anus. The lower margin of the ulcer was slightly overlapped by a small fold of swollen mucous membrane. A knife with a rounded end to the blade was passed into the bowel, a little beyond the limit of the ulcer, and an incision made through the base of the ulcer and to about a quarter of an inch into the underlying tissue, a strip of carbolized gauze introduced into the incision, and the patient returned to bed. He has been entirely free from pain since the operation. A dose of castor oil was given on the third day, and since then a teaspoonful of compound licorice powder every second night, so as to keep the bowels acting easily. The ulcer is very nearly healed, and he is going home in a few days.

Case 2.—On the opposite side of the ward is a man from whom a few days since I removed a mass of hæmorrhoids with the crushing clamp. This patient had also suffered for years from constipation, which had lately become more severe, and he also sought the hospital, not because of his constipation, but because defecation had become very painful. The pain in his case was due to the passage of hard fæces over a mass of hæmorrhoids about an inch within the anus, the surface of which was in several places ulcerated. In this case the pain and difficulty of defecation have been cured by the removal of the hæmorrhoids and attention to the action of the bowels, a soft motion being obtained every day by the aid of a little compound licorice powder.

Case 3.—I saw a few weeks since a lady who had been confined five months before. During her pregnancy the pressure of the gravid uterus had led to the development of large masses of venous hæmorrhoids, which often protruded during defecation. After the birth of the child these to a great extent subsided, but two small groups remained, and were invariably protruded with a considerable piece of the adjacent mucous membrane whenever the bowels acted. The patient was habitually constipated, and the bowels acted only every second or third day. All this, however, she thought but little about, but my advice was sought because after an action of the bowels a few days before she had been seized with intense pain, accompanied by sickness and faintness, and which lasted for several hours. Two days after this she felt a desire to go to stool, but was immediately attacked with the same severe pain, so that she could not obtain an evacuation. The pain was relieved somewhat, however, by an enema which emptied the bowel. On examining the bowel with the finger and with a dilating speculum, I found the anus and mucous membrane relaxed and a few dilated and slightly thickened veins, which formed the small lump protruded during defecation; but the pain was explained by the fact that over one of these prominences the mucous membrane was superficially ulcerated, so that when hard fæces passed into the lower part of the rectum the ulcerated surface was pressed upon and irritated, and hence the severe pain both before, during and after defecation. In this case relief was speedily obtained by ensuring a soft daily motion, and by the application of suppositories of grey oxide of mercury and cocaine, aided by rest in the recumbent position after defecation or exercise, and by regulation of the diet.

Here, then, are three cases in which you will observe that advice was sought, not because of constipation, but because of pain, and in each instance the pain was due to the presence of ulceration of the rectum. They are illustrations of a vicious pathological circle; for, firstly, these patients had all become habitually constipated, then the constipation led to ulceration, and the ulceration kept up the constipation. The pain in all of them was characteristic of ulceration of the *lower* end of the rectum, for not only was it very severe at the moment of defecation, but it continued for a considerable time afterwards, and, moreover, was accompanied by intense spasm of the sphincter. Ulceration higher up in the bowel does not give rise to this kind of pain; but wherever the mucous membrane and skin join at the various natural orifices, you will see that the parts are very sensitive, that they have a rich nerve supply and great reflex activity. Hence it is that an ulcer near the anus gives rise to a spasmodic resistance to the onward passage of the contents of the bowel, and so keeps up constipation; and for the same reasons you will find that a deeper degree of anæsthesia is necessary for operations upon the rectum than for those on most other parts of the body.

Case 1 was a typical instance of ulcer or "fissure" of the anus; a narrow oval ulcer just within the anus, most often, as here, on the posterior aspect of the bowel, and of extreme sensitiveness. If the ulcer has existed for a few weeks its edges become raised and hard, and its lower margin is often partly covered by a projecting fold of mucous membrane. Pass the palmar surface of the right forefinger gently over the nail of the left forefinger from its tip to its root and on to the skin of the phalanx, and you will obtain a very good idea of the sensation conveyed to the finger by an ulcer of the anus; the edge of skin round the root and sides of the nail feels almost exactly like the hardened edge of the ulcer. Directly you attempt to pass the finger into the bowel to examine such a case, you find the sphincter spasmodically contracted; and this contraction, and the great pain caused by any effort to overcome it, often make it impossible to examine the bowel without the administration of an anæsthetic. It is in this way that the constipation is perpetuated; for as soon as the fæces reach the position of the ulcer the sphincter is provoked to such powerful contraction, and so much pain is produced, that no voluntary effort is sufficient to obtain an evacuation, and the attempt is given up. Whenever, then, such symptoms are met with, and in all cases of constipation in which defecation is followed by severe pain of the kind I have described, you may suspect the existence of an ulcer of the anus; and it is well before your examination to clear the bowel by an aperient, then to place the patient under an anæsthetic and examing the rectum, when, if you find an ulcer, you can at once incise it. All that is necessary is to divide the base of the ulcer and the corresponding part of the sphincter to the depth of about a quarter of an inch, then to insert a small strip of carbolized gauze into the incision, and subsequently to dress it with the grey oxide of mercury ointment, or, if the healing be indolent, with Peruvian balsam. The pain is at once at an end; but it is necessary to overcome the habit of constipation by careful attention to the daily action of the bowels. A soft motion should be obtained with the mildest possible aperient, all active purgatives being avoided; the addition of olive oil to the vegetables taken at dinner will often suffice.

Case 2 presented many of the same features, pain at and after defecation being the prominent symptom; but in this instance the ulceration was upon the surface of some hæmorrhoids, so that by removing these the ulcer was got rid of at the same time. I may say, in passing, that one great advantage of removing hæmorrhoids with the pressure clamp is that the base of the pile is rendered so insensitive by the crushing process that very little pain is suffered after the operation.

Case 3 was also a good example of the manner in which a superficial ulcer near the anus may completely prevent the evacuation of the bowels; but in this case the tendency to hæmorrhoids was subsiding, and the ulceration so slight that no operative interference was needful.

Some of you have seen several other cases in the wards, in which my colleague, Dr. Cavafy, recognizing the frequent dependence of obstinate constipation and painful defecation upon fissure of the anus, has requested a surgical examination of such patients, which has led to the detection and division of a fissure, and thus to the cure of the constipation.

Let me now call your attention to a group of cases in which the patients were all old people, and which illustrates a form of constipation to which the aged are liable.

Case 4.—Dr. Cavafy asked me to examine the rectum of an old man under his care in King's ward, who complained of frequent and painful defecation. Here we found the rectum dilated and loaded with a mass of hard fæces; the finger could, however, be passed between the fæces and the mucous membrane, and no ulceration or other morbid condition was felt; a little blood-stained mucus was expelled with the finger. The degeneration of the muscular tissue of the body which occurs in old age is the cause of a form of constipation of which this case is an example. The patient's discomfort was due to the want of muscular power in the bowel, which allowed the accumulation and hardening of the fæces; and the frequent and painful efforts of the bowel, which resulted only in the passage of mucus, were attempts to dislodge the offending mass. No surgical interference, therefore, was necessary; but Dr. Cavafy wished before proceeding with the needful medical treatment to ascertain that there was no local disease to account for the symptoms. The use of enemata of oil, and the internal administration of nux vomica, led to the passage of immense quantities of hard, lumpy fæces; the old man now has a comfortable daily evacuation, and says that his bowels are more easy than they have been for years.

Case 5.—A short time since I was asked to see a case of fractured thigh in an old woman, in whom union was delayed in consequence of her restlessness and the frequent disturbance due to what was called "constant diarrhœa." There was a good deal of tenesmus, and mucus, sometimes blood-streaked, was frequently passed, with very small quantities of feculent matter. She was taking chalk mixture and astringents. Her tongue was coated, her breath foul, and she took food badly. An examination of the rectum discovered an immense collection of hard fæces, which required the persevering use of enemata, aided by doses of castor oil, to dislodge. After this small doses of aloes and nux vomica kept the bowels acting comfortably once a day. She became perfectly quiet, her appetite returned, the fracture united soundly, and she made a good recovery.

This case is an example of what we often have occasion to observe: the production of constipation by the sudden change from an active life to one of enforced quiet. It must be remembered that many people whose bowels are perfectly regular when taking their accustomed exercise, become at once constipated if suddenly obliged to keep their bed—as, for instance, in consequentce of a fractured leg. This is a matter, therefore, which you must not neglect to inquire into when treating people under such circumstances. The case is also an example of the spurious diarrhœa due to retained fæces, and of the necessity for rectal examination to ascertain its cause.

Case 6.—Some months ago I saw a very stout old lady of seventy who had been obliged, for domestic reasons, to become sedentary in her habits. She had suffered from increasing constipation, and when I saw her was vomiting a foul fluid very much like liquid fæces. There was a tumor the size of two fists in the left iliac fossa. As far as could be made out through the abdominal fat, the mass seemed to yield somewhat to the pressure of the finger, and the history of the case pointed to fæcal impaction. The rectum was empty, having been well washed out by enemata. An enema administered through the long tube, followed by ten grains of calomel, brought away a vast quantity of fæces, and the patient in a few days was well.

This is another instance of constipation in an old person, resulting from diminished exercise.

Case 7.—A gentleman seventy five years of age came to me because he could not pass his catheter, which he had been accustomed to do with ease for ten years past, on account of an enlarged prostate. An examination of the rectum revealed a ring of œdematous skin around the anus, and a mass of exceedingly hard fæces blocking and distending the bowel. On inquiry he admitted that the bowels had not acted for several (he was not sure how many) days, and that he was habitually constipated. Evidently the difficulty of passing the catheter was owing to the pressure of the distended rectum. As the bladder was a good deal distended, it was necessary at once to empty the rectum, and for this purpose the hard plug of fæces had to be gradually broken down and extracted by the finger and a lithotomy scoop; for this part of the bowel had lost all power of expelling its contents, owing to its over distention and inflammation. Having thus emptied the lower bowel, the rest of the colon was washed out with warm water, after which a catheter was easily passed into the bladder. A full dose of sulphate of soda with decoction of aloes was then given by the mouth, and this brought away large quantities of lumpy fæces, some of which were of great hardness, and evidently of long accumulation. The patient was of course warned against allowing any fæcal accumulation again to occur.

This is another instance of the constipation of old age from muscular degeneration, and it illustrates also the mechanical effects of a loaded rectum on adjacent organs. Such fæcal accumulations may give rise to serious ulceration and softening of the coats of the bowel, and in this way neglected constipation brings to an end the lives of many old people.

It was pointed out just now that the presence of hard fæces in the rectum often produces a sort of spurious diarrhœa, due to the efforts of the bowel to dislodge the cause of irritation. In the same way, it must be borne in mind, that a cancerous or other growth projecting into the rectum may give rise to a similar tendency to frequent action of the bowels, which is not uncommonly spoken of by the patient as diarrhœa. On the other hand, the pressure of pelvic tumors outside the bowel, while it may cause mechanical difficulties in the onward passage of the fæces, does not produce this reflex irritation. A loaded rectum is a not uncommon cause of retention of urine in old men, in whom the pressure of a mass of hard fæces upon an enlarged prostate, and the congestive swelling due to the accompanying venous engorgement, are just enough to turn to the wrong side, the balance between the expulsive power of the bladder and the obstacles to be overcome.

If now we turn to the consideration of constipation upon those at the other end of life—young children—we shall see that here again the function of the bladder is often disturbed by irritation of the neighboring rectum; but in their case it is incontinence of urine, not retention, that results. You saw recently a little boy in Fitzwilliam ward who was sent into the hospital under the idea that he might have a stone in the bladder, and in whom the irritation of the bladder and incontinence of urine seemed to have depended entirely upon the presence of hard fæces in the rectum. Besides the mechanical irritation thus caused, children who suffer from constipation are apt to pass large quantities of uric acid, the presence of which in the urine often gives rise to incontinence. If we bear in mind the sensitiveness of the nervous system in children, and the ease with which the temperature is disturbed, we shall not be surprised at the serious symptoms to which constipation may give rise. These are conditions which come more often under the treatment of the physician; but in the surgery of children it is no less needful to take heed to the condition of the bowels; and the record on the last line of our temperature charts, which shows the action of the bowels, will often be seen to have a direct relaton to that of the temperature shown above it, a glance at that last line frequently indicating to us the prescription of a purgative rather than of a sedative to a restless child. The effect of constipation upon the temperature is illustrated by the following case.

Case 8.—This was a boy aged ten in the Egremont ward, who was admitted on account of a number of large chronic abscesses. These were opened, drained and dressed antiseptically. Of course we watched the temperature, and one day we observed with anxiety that it had risen to 104°. We naturally feared that some septic process had commenced in the abscesses, yet a careful examination revealed nothing wrong. Further inquiry led to the discovery that the boy's bowels had not been opened for several days. This was the only thing which we could find as a possible cause for the high temperature. He was given a purgative, and as soon as it had acted the temperature came down to the normal. This series of events recurred on two other occasions, the temperature coming down every time as soon as the purge had acted.

Two cases may here be related in which constipation arose in young children in consequence of mechanical conditions requiring surgical treatment.

Case 9.—This was an infant five months old, who suffered much from constipation, with difficulty and straining on defecation. This was due to a congenital smallness of the anus, which had not been noticed until, with the increasing age of the child, the motions became of sufficient firmness to pass only with difficulty. The anus looked natural at first sight; but, when the buttocks were separated, the opening was seen to be funnel-shaped, and narrowed to the size of a No. 4 catheter. With perseverance, however, the little finger could be introduced, and subsequently the forefinger; and, by the use of daily dilatation, the contraction was overcome. Such cases are rare, though I have seen a few of less degree than the one mentioned.

Case 10.—In 1882, a little boy, four years of age, was brought to me on account of increasing difficulty in defecation, the result of contraction of the scar of a scald over the buttocks and round the anus, which he had suffered when about eighteen months old. In this case bougies of gradually increasing size were passed daily and retained in the rectum for ten minutes, and thus, after long perseverance, the contraction was overcome.

As we pass from childhood to adult life, the cases of constipation which come under the notice of the surgeon are mostly those dependent either upon ulcer of the kind already spoken of, or upon narrowing of the bowel, due to syphilitic, cancerous, or other forms of stricture. Of these last I do not propose now to speak. But there is a form of constipation met with in girls, to which I would next draw your attention. It may best be illustrated by the relation of a case.

Case 11.—A young lady of nineteen, the sister of one of our pupils, was brought to me on account of a lateral curvature of the spine. There was a slight curve, the convexity in the lumbar region being to the left. The patient complained much of a dull pain in the loins, especially on the left side. She stooped a good deal, and was very easily fatigued. She was, moreover, extremely thin and anæmic, had but little appetite, a coated tongue, foul breath, and very cold hands and feet. An examination of the abdomen revealed a large fæcal accumulation in the sigmoid flexure; and, on being questioned, she admitted that the bowels were extremely constipated, often acting only once a week.

This is one case, out of a series of the same kind, that has come under my notice, in which a supposed lateral curvature is merely the habitual position assumed by young girls suffering from obstinate constipation and loaded sigmoid flexure. Such cases are best treated by massage, feeding, and aperients, under which the anæmia disappears, the bowels recover their power, appetite is regained, flesh is made, and the yielding of the spine comes to an end.

In older women, constipation and the consequent loading of the pelvis with fæcal accumulation, is a not uncommon cause of impediment to the venous circulation of the lower limbs. An instance of this was recently in the hospital, in which we found œdema and pain in the left lower extremity of a woman aged fifty-two, and which depended entirely upon an accumulation in the sigmoid flexure and rectum.

You will frequently have occasion to notice also the beneficial action of purgatives on the eczema and eczematous ulcers so commonly affecting the legs of women. In the case of a cook lately in Harris ward, you may have seen that in addition to a troublesome eczema of the legs, there were numerous minute spots of purpura scattered over the adjacent skin, and that the itching of the skin forming the margin of the eczematous patch was almost intolerable. Now, this patient was habitually very constipated, and all these symptoms were rapidly and strikingly benefitted by the free administration of saline purgatives; whereas the slightest tendency to constipation was at once attended with a return of the itching, and on one occasion with a recurrence of the purpuric extravasations.

Let me point out to you one more case in the hospital, showing the effect of constipation in connection with injuries of the head. Everyone is probably aware that constipation is apt to produce a feeling of fullness of the head, and most persons have experienced the relief of a headache clearing away after a free action of the bowels. This is seen most noticeably after head injuries, in which you will frequently see a remarkable diminution in pain and cerebral excitement ensue immediately upon the action of a free purge.

Case 12.—In the Oxford ward is a man, aged twenty-five, who was admitted on account of a severe head injury, which had no doubt caused a considerable extravasation of blood on the surface of the brain. He was insensible when admitted, but gradually recovered some consciousness. As is often the case in head injuries, the bowels were very difficult to move, and he required freqent active purges. One day this man had a severe convulsion, and became very drowsy and stupid. We then found that in spite of repeated doses the bowels had not acted for three days. He was at once given an enema, followed by ten grains of calomel and twenty of compound scammony powder. This produced one copious evacuation, after which he was at once much more sensible. The bowels have, however, been very obstinate, and you have had the opportunity of seeing how drowsy and stupid he always becomes when constipated; and how he immediately improves after a purge.

In connection with the subject of constipation, one ought, perhaps, to mention that persons are occasionally met with in whom the natural condition seems to be for the bowels to act only at intervals of several days. I have lately been attending a boy for a local complaint, whose health was apparently perfectly good, and whose bowels had regularly acted but once a week as long as he could remember. His father told me that this peculiarity was common to himself and nearly all the members of his family (a rather large one), and that he should certainly consider himself seriously ill if his bowels acted every day. Moreover, lest you should think that constipation is a condition necessarily calling for the administration of purgatives, let me remind you that there is a physiological constipation which is the natural mode of rest to an inflamed or injured bowel, and which should not be interfered with. Thus, after the operation for strangulated hernia, we abstain from giving purgatives until the bowel has sufficiently recovered to act spontaneously; and so also, in inflammatory conditions connected with the intestines, it is often best not to interfere with the resulting inactivity of the bowels. To illustrate this, I will mention one other case which you have had the opportunity of watching.

Case 13.—This is a man, twenty-two years of age, in the Hunter ward, who was admitted with a history of chronic constipation, to which had been added during the last ten days a painful swelling in the right iliac fossa. On looking at the patient you saw at once that he was very ill. He had an anxious expression; he lay on his back with his knees drawn up; he was occassionally sick; his pulse was 120, tongue dry and red, and the bowels had not acted for four days. On inspecting the abdomen, you noticed that, whereas there was a depression of the abdominal wall over the left iliac fossa, the corresponding portion on the right side was prominent; moreover, the abdominal muscles scarcely moved on respiration, and if you placed your hand upon the iliac region, you found that on the right side the muscles were hard and contracted, but on the left in a natural state of relaxation. The swelling in the right fossa was tender, but gentle pressure made evident a somewhat rounded mass deeply placed and below the abdominal wall, and which we took to be a fæcal collection in the cæcum, around which was inflammatory swelling. Now, in this instance you will have observed that we carefully abstained from giving purgatives, even though there was a large fæcal mass to be got rid of, because of the evidence of inflammation of and around the bowel. We simply gave him opium, and for food a very small quantity of milk. A pillow was placed under the knees and a linseed poultice over the iliac swelling. Under this treatment the inflammatory swelling gradually subsided, and at the end of ten days the bowels acted and a large motion was passed. Then, and not till then, did we venture to assist the evacuation of the bowels by enemata and subsequently by doses of castor oil.

CLINICAL RECORDS.

A Case of Retinitis Pigmentosa Treated Electrically. By Myles Standish, M.D., Ophthalmic Surgeon to Out-Patients, Carney Hospital; Assistant Ophthalmic Surgeon, Boston City Hospital; Instructor in Opthalmology in the Boston Polyclinic, etc.

I am well aware that to report the result of the treatment of a single case of any disease, and to draw deductions therefrom as to the efficacy of the method of treatment, is a rash proceeding, and I would not occupy the time of the Society by reporting this case except for the fact that it is one of several cases reported at the last meeting of this Society by Dr. Hasket Derby, in a paper which excited considerable discussion at that time.

The patient was a women, thirty-three years of age. She had myopia of 1.50 diopters in each eye, and had worn correcting lenses since she was seventeen years old. Her parents were not relatives. She was the only child of her father's first marriage, and had several half-brothers and sisters who had never had any trouble with their eyes. Several members of her mother's family were "near-sighted."

When first seen by me, on the 14th of April, 1886, she had noticed an increasing failure of vision for the previous three years, which had increased very rapidly in the three months previous to her visit to me. Her night-blindness had recently become so great that she could no longer go on the street after night-fall with safety. The ophthalmoscope showed a considerable number of the characteristic star-shaped spots of retinitis pigmentosa in the periphery of the fundus in each eye. Her vision was: right, $\frac{12}{40}$; left, $\frac{12}{50}$.

The field of vision did not extend over 20° in any meridian in either eye.

The only treatment employed in this case was the continuous electrical current. The positive pole was placed upon the closed eyelid, and the negative pole on the brow or temple. The strength of the current used was only such as could be comfortably borne, and has generally been derived from four or six cells of a Störer's battery.

The current has been passed in this manner for five minutes at a time at intervals of several days.

For the last ten months there has been a uniform interval of five days between the sittings. The patient has not been restricted in the use of her eyes while under treatment, and has used them constantly for fine work.

For the fifteen months that she has been under treatment there has been a steady improvement, both in central and eccentric vision, from the commencement up to the present time, except as hereinafter stated. These exceptions are, first, that there has been no improvement of vision for the last three months, although under treatment during that period; and, second, that in the summer of 1886, after the patient had been under treatment for four months, she went out of the city on a vacation, and was absent for six weeks, during which period the electricity was omitted, and upon her return it was found that her vision had fallen somewhat, both centrally and eccentrically, but the loss did not exceed a quarter of what she had previously gained. Her present vision is: right, $\frac{12}{30}$; left, $\frac{12}{15}$. The present horizontal diameters of the fields of vision are: right, 75°; left, 70°; and the vertical diameters are: right, 70°; left, 68°. This rather startling result has been verified by repeated examinations. The fields of vision have been taken with great care in the earlier, as well as the latter periods of observation, upon a perimeter, at noon on a clear day, with the perimeter facing the light, and at the same distance from the window at each trial. The objects used in determining the areas of the fields have been pieces of white paper one centimeter square. In testing central vision, the test-types have been changed from time to time, to avoid the danger of making too high a record by the use of familiar letters. Some ophthalmoscopic changes have taken place while the patient has been under treatment, but these changes have been confined to a widening out of the prolongations of each patch of pigment, so that they do not now present such characteristic bone-corpuscle-like shapes as they did when first seen. No new patches of pigment have appeared.

To argue from this case that all, or even a very considerable number of cases of retinitis pigmentosa would be similarly benefitted by the use of electricity, would be manifestly absurd; but that such an improvement in central and eccentric vision, should happen to any case of retinitis pigmentosa, either with or without treatment, is a noteworthy fact, and one that should draw our attention to the circumstances of that particular case.

We have present in this case, beside the constant treatment during a period of fifteen months, several other peculiarities. It came on fully as late in life as this disease ever develops; that is, if we may believe the patient's statement, at about thirty years of age, but did not progress very rapidly until the last three months before she came under observation, during which period, however, the onset of the disease was unusually rapid. Again, when first seen, the impairment of vision was very much greater than we should be led to expect by an examination of the fundus, from which it would appear that treatment was begun while the disease was yet in its active stage, preceding the visible deposition of pigment in the retina.

From these considerations it would seem that, in so far as one case is capable of teaching anything, that when a case of retinitis pigmentosa is seen in its earliest stages, or when there is a sudden exacerbation of the disease, as evidenced by diminution of the functions of the eyes, that a trial of galvanism should be made.

FIBROID TUMOR OF THE UTERUS TREATED WITH ELECTRICITY—APOSTOLI'S METHOD.

Miss W., housemaid, colored, single, aged forty, was sent to me August 13, 1887. Menstruation commenced at the age of fifteen, and was always painful. Six years ago her belly began to be sore, and walking and other exertion caused severe pain in hypogastric region. Five years ago she had typhoid fever. One year ago she noticed a lump coming in her belly just above the pubis, and at the same time her abdomen became so tender that she could not bear the weight of her clothes, which she had to let out, as they became too small for her ever-increasing size. She suffered more and more, until she could not go up and down stairs. She was unable to pass water oftener than every two days, and the evacuation of her bowels occurred seldom and was very painful. The os uteri began to project beyond the vulva about an inch or more. At the same time her general health became much impaired; she lost her appetite and became thin and haggard. Dr. Reddy was called in, and diagnosed a fibroid tumor completely filling up the pelvis and pressing on the urethra and rectum. He took her to the Women's Hospital, where, at a consultation of several of the staff, it was unanimously agreed that total extirpation was the only operation, and that that was too dangerous to be thought of in this case, owing to the fixedness of the tumor in the pelvis. Dr. Reddy learned that I was prepared to carry out Apostoli's method, and sent her to me.

The cervix, long and conical, projected about an inch and a half from the vulva, and cannot be pushed up. The finger can be introduced with difficulty by the side or under it; but it is prevented from giving more than an inch or two in any direction by coming in contact with a large, round, hard mass, which closely fits the wall of the pelvis, just as the fœtal head does during labor. It is either adherent or jammed into the pelvis, for it is immovable. Bimanual palpation reveals this mass half way up between the pelvis and umbilicus. The abdominal wall is very thin and tense. There is a profuse discharge from the vagina and cervix, which latter has a hard and woody feel. Sound enters five and a half inches with difficulty, as the internal os is constricted; but it does not require to be curved, as the canal is perfectly straight. Menstruation very painful, lasting eight days.

In order to test Apostoli's method thoroughly I determined to employ no other remedy than electricity throughout. As my galvanic battery was not quite ready, I contented myself with giving her several sedative applications of the faradic current of tension in the vagina with a long, fine wire. This was not well borne, bringing on the menstruation, without diminishing its severity, two weeks too soon. On the 25th of August I had a visit from Apostoli, and I availed myself of his presence to have his opinion. He thought her especially suitable for his treatment, and prophesied a cure.

On the 13th of September, my apparatus being complete, I placed her in dorsal position, carefully washed my hands and scrubbed my nails with 1-5000 sublimate solution, and washed the cervix and vulva with the same. The warmed cake of clay was placed on the abdomen and connected with the battery; the platinum sound was disinfected by being plunged in pure carbolic acid, connected with the positive pole and introduced to the fundus, the vaginal portion being protected with a glass insulator. The current was then gradually turned on. I obtained a smooth positive current of fifty milliamperes for five minutes, the patient only experiencing a burning feeling in the abdomen.

Sept. 15.—She slept the whole night through after the application for the first time in a year, passing water freely and frequently in the normal position, and her bowels have been opened every day without pain. She had severe colic at the pit of her stomach, which lasted two hours after the first application, which made her feel weak and sick. Gave her the second positive galvanization. Being courageous and anxious to get well, she told me she could bear more, so I raised the current to one hundred milliamperes. She complained of burning in the abdomen again, and I was about to lower the current, when the patient removed her hands from the clay for a moment and the needle fell to fifty. It gave her a shock which broke the brass connection. To-day the sound only enters three and one-half inches, instead of five and one-half on the 13th of September, so that I feel assured that in another month or two the tumor will have completely disappeared. I have two other cases of fibroid under treatment which are progressing favorably, and the details of which I shall publish in due time;

one of them had been taking ergot steadily for several months, in spite of which the tumors continued to grow rapidly, until the pressure symptoms became unbearable.—*Dr. A. Lapthorn Smith, in the Canadian Practitioner.*

REMOVAL OF A PORTION OF THE RECTUM FOR EPITHELIOMA. By Dr. Henry Smith.

Mary Ann S—, aged 50, a street hawker, was admitted on April 7th last. She was married, and had had six children, two of which were stillborn, and four died under the age of two months in convulsions. There was no history of malignant disease, or tumors of any kind in the family. Six months before admission she first noticed pain about the anus, together with loss of blood during the act of defecation. The pain was intense at times, and the hæmorrhage was considerable. Four months were allowed to pass before she consulted a medical man.

At the time of admission into the hospital the anus was found to be the seat of a hard, nodular mass, completely surrounding the orifice. The finger could be introduced with some difficulty, and on passing it beyond the growth (which extended upwards for an inch and a half all around the lower part of the rectum) the rest of the bowel was found to be normal. The mucous membrane of the posterior wall of the vagina was healthy, and although the rectal tumor could be felt through that septum, it did not appear to be adherent to it. Urine, sp. gr. 1025; small quantity of albumen.

On April 9th the patient was put under the influence of ether and the operation for the removal of the growth was performed as follows: The patient was placed in lithotomy position, and the left forefinger was inserted into the rectum as far as the top of the coccyx. Upon the finger was guided a long, curved, sharp-pointed bistoury, which was made to enter the bowel at this point and cut its way out in the median line posteriorly. An incision was then made on each side of the anus, about half an inch from the orifice, and carried forward on each side to the posterior part of the vagina; the rectum was then carefully separated from the tissues around, great care being taken to avoid wounding the posterior wall of the vagina, which, although pressed upon by the growth, was not implicated; the upper limit of the growth was then reached, and the bowel was separated above it by the actual cautery. During this operation there was a very great loss of blood, and it was necessary to tie several vessels.

Though the patient was removed from the operating theatre in a very low state she soon rallied from the collapse. The bowels were kept confined for several days; not a single bad symptom ensued, and she went on interruptedly well.

She was discharged on June 29th, at which date there was some tendency to prolapse of the flaccid mucous membrane of the rectum. The wound had healed, and the patient was able to retain solid but not liquid fæcal matter.

She was readmitted on July 4th for relapse of rectum, but after resting in hospital for ten days this was so much diminished that she refused to undergo an operation for its radical cure. The severe pain and hæmorrhage from which she formerly suffered had never returned since the operation. The tumor, on microscopical examination, was found to be epithelioma.

In some remarks which Dr. Henry Smith made in the ward just previous to the discharge of this patient, he stated that as a rule he was opposed to the operation of removal of the lower portion of the rectum when attacked with cancer, and he had almost invariably refused to extirpate such growths except when the outlet only of the bowel was affected. When any extent of the rectum was involved its extirpation demanded an operation which was attended with great dangers, especially from hæmorrhage. Now and then, however, a case would be met with where the growth was so limited that the finger could be passed well above it, and it was so circumscribed that its surrounding tissues were not much involved; and this was so in the present case, and he therefore did not hesitate to give the woman a chance of prolonging her life and relieving her great misery.

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TRANSLATIONS

On the Forcible Feeding of the Insane.* By Dr. Julius Rader.

A. B., aged 39 years, single, is said to have been much neglected in childhood, and to often have lived off refuse food found in the streets. She was admitted to a Vienna hospital, suffering with syphilis, and she disclosed symptoms of insanity, leading to her being transferred to three other institutions, at the last of which she remained until July, 1882 (eleven months after the beginning of her insanity), when she developed periods of excitement, during which she would break out in tears, and occasionally shriek out the vilest epithets. She believed that she was being pursued and murdered by criminals, replied to no questions, and abstained from all food since September 20th, 1882. Five days later she was sent to the insane asylum at Ybbs.

On admission she was filled with fear, but replied, though lazily, to questions. In answer to the query as to why she refused to eat, she said, "Because I have taken vitriol."

She was markedly congested, her pupils were very wide, the conjunctivæ were strongly injected, and there is fetid breath. Upon slight urging she took some food, and after the following day began to eat regularly. Otherwise she was quiet, indifferent as to her surroundings, and sat all day at the same place, and only occasionly talked to herself in an audible tone, scolding certain persons.

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* Read before the Philadelphia Neurological Society.

On December 18, 1882, her face was markedly congested, she was excitable, said her bowels have not acted for several days, but refused to take a laxative, remarking, "All will be well again if I eat nothing." She abstained until December 28, 1882.

In the following years there was no appreciable change in her condition. She often had delusions of poisoning, claiming that her food had been poisoned, so that she would become costive for a time. She would then abstain from food for from eight to ten days.

In the beginning of April, 1887, the patient again became more excitable, noisy, completely inapproachable, continually scolded, using the vilest expressions when approached or addressed, and also had delusions of poisoning. She abstained totally from all food from the 3d to the 24th of April. But during this time she drank considerable water, after taking which she would produce emesis by running her finger back in her throat. After this she would drink more water and repeat the emesis, and continue so many times during the day. She had very bad fetor of breath that filled the room, and was noticed immediatiately upon entrance.

She took some food from the 24th to the end of April. She however abstained again from the 1st to the 16th of May, drank large quantities of water, which she expelled by self-induced emesis, lasting for hours. From the 16th of May to the 2d of June, 1887, she daily ate a little clear soup, but refused to take any more substantial food. In the beginning of June there set in an enormous, almost inappeasable appetite.

The duration of the total abstinence and partial abstinence makes up a period of exactly two months. During this time the patient actually fed for only six days; the soup that she took daily from May 16th to June 2d cannot strictly be considered as food.

The formerly very good-looking patient of finely nourished appearance had at last a sickly appearance, a dirty yellowish-brown complexion; she was enormously emaciated, very weak, always sat crouching in the same place; during the later period was ever inapproachable, irritable and dejected, and scolded at once upon being approached. Weighings could not be undertaken.

Despite the long abstinence and the bodily deterioration of the patient therefrom resulting, in accord with the Director of the Institution, Dr. Langweiser, I did not proceed to the artificial feeding of the patient.

The fact, on the one hand, that the patient on repeated occasions remained without food for a considerable time, and then spontaneously returned to food; on the other hand, the sad experiences in the forcible feeding of patients that I have had during the last six years, induced me to maintain a position of observation.

The question as to whether in a given case forcible feeding should be resorted to or not, is at the present time not yet ripe for discussion. At all events, the request for the forcible feeding of *every* abstaining patient after a given time must be denied. Generalization is here least of all in place and every case must be accurately individualized.

The fear that these abstaining patients will die at the end of a week is unjustifiable, when we reflect upon the experience of the modern fasters. According to my experience, never to resort to forcible feeding of the abstaining insane, would entail less damage than the forcible feeding of all such cases. After having seen that many patients follow forcible feeding by violet emesis, and too often die of pneumonia due to the inspiration of vomited matter; and on the other hand, that patients, despite the ample ingestion of food that has been forcibly introduced, fail to assimilate it, and in a short time become emaciated and eventually die, not to mention those cases in which death results directly during the forcible feeding; these negative results must seem serious and be a warning.

For the sake of comparison, it may be well to say that at the present time forcible feeding of the insane is not much different from the not yet very distant past when these patients were much restrained. There was a time when the iron chain with which the excited patient was fastened to the wall of a cell that in every way that burlesqued all sanitary requirements, belonged to the necessary instrumentarium of the "expert in insanity;" and not far in the past is the time when it was considered urgently necessary to confine each new patient, whether quiet or not, in a straight jacket, or to apply it to excited patients for purposes of discipline.

It has taken a long time until this medical treatment was dropped, in the service of true humanity, and restraint was resorted to to urge them when other means were inefficient to prevent injury to the patient.

The danger to the abstaining patient consists in nothing but that of death from inanition; and so the only question to be considered is how long can the patient exist without food? One would believe that the diminution of the body weight might be sufficient, but the insane often overturn all theories and stand a loss of forty per cent. of the body weight without reaching the border of inanition. This, then, will not settle the question, and other means must be resorted to for an answer.

We can only determine this, however, after more material has been studied from different standpoints, and especially that which considers the *etiology of abstinence.* Especially would it be necessary to consider the innervation of digestion that might, besides giving rise to indigestion, also cause hallucinations of taste, and therefrom resulting delusions of poisoning, in which cases, because of the digestive power being dormant, forcible feeding could only do harm.

In the second place, there would have to be considered actual anatomical changes of the gastro-intestinal tract, as well as combinations of disturbed nervous innervation with pathological changes of the digestive tract.

Our case seems to be one of this kind. The behaviour of the patient during her abstinence, in filling her stomach with water, and then emptying it by means of self-induced emesis, can be considered as perfectly rational, and reminds one forcibly of the washing out of the stomach in cases of gastric catarrh.

It is certain that her own treatment did her more good than if she had been forcibly fed by means of the elastic tube *per nasum.*

ABSTRACTS.

TWELVE CASES OF RUPTURED TUBAL PREGNANCY.—Mr. Lawson Tait reports these cases in the *British Gynæcological Journal*, Part XI., November, 1887. The cases here reported make up, with those already published, the unique record of thirty-five cases of abdominal section in ruptured tubal pregnancy, with two deaths. The cases are reported in the form of brief notes, which cannot with advantage be further summarized. The second case of the present series, and the operator's Case 25, is as follows: "J. E., aged thirty-five, married eighteen years, had suffered severe pain all her menstrual life, had one daughter very soon after her marriage. She thought she had had three miscarriages six or seven years before, but had no living child. She ceased to menstruate suddenly at the end of January, 1886. She had no symptoms at all until the end of April, when a second attack of pain induced her to keep to bed. This pain continued about ten days, and she had a feeling of great lassitude and exhaustion, and was noticed to be very pale. She recovered and got up, and about the middle of May another attack of a similar kind induced her to go to bed and call in Dr. Cunningham, of Oldbury. A third and still more violent attack occurred on June 2. I saw her, diagnosed ruptured Fallopian pregnancy, operated on the 4th, and found a pregnancy of about the twelfth or thirteenth week of the right Fallopian tube, and the abdomen full of clots and bloody serum. I washed it out with warm water, used a drainage-tube, and she left the hospital on July 1, quite recovered."

A case occurring in the practice of Dr. Dolan, of Halifax, is reported in greater detail, and is of value as giving with considerable circumstantiality the features of a fairly typical case of rupture. The fatal case was one of a hospital patient, who was first seen about two months after the rupture first took place. "She was so exsanguine that she seemed to be in a momentary condition of fainting, and her skin seemed to be tinged with hæmoglobin."

Mr. Tait gives it as his opinion that thirty-two or thirty-three, if not all thirty-five, of the patients would have died but for operative interference. He attributes the death of the first patient operated on to want of experience. "I was too long over the operation; I fiddled about, securing the bleeding points as they arose instead of doing as I always do now, separating all adhesions, regardless of the bleeding points, until I get as rapidly as I can down to the base of the tumor, which is the broad ligament. A ligature placed round that and secured at once arrests the hæmorrhage."

On the question of electrolysis as a preventive of rupture or in the treatment of such cases as are described, it is pointed out that all the cases mentioned had to be treated after rupture, and when the lives of the patients were in extreme danger. "An electrolytic needle, under such circumstances, would have just as much effect as a pinch of snuff. In some cases the fœtus had been dead for weeks, but the placenta evidently continued to keep up the circulation, and hæmorrhage went on. The diagnosis is not always possible, but it may be made correctly in probably eighty-five per cent. of the cases. The real clue to the nature of the case is a history of sterility for some considerable time, the arrest of menstruation for weeks or even months, and a sudden access of pain and collapse, with repetitions of these attacks."

Mr. Tait has met with his thirty-five cases within seven years, two of the cases occurring within twenty-four hours of each other. This fact confirms Dr. Blundell's statement that "the disease is by no means rare." With such a record as that which is here briefly summarized, perhaps the most remarkable in the history of abdominal surgery, the author's concluding statement errs, if at all, on the side of moderation: "Thanks to the progressive emancipation of the professional mind from the thraldom of authority within the last ten years, we have now the means, if we have a reasonable time in which to act, to save at least the great majority of these cases."

METHODS OF CLEANSING THE PERITONEUM.—In the *British Gynæcological Journal*, August, 1887, Lawson Tait insists on the greater safety which is insured by careful washing of the peritoneum, instead of using sponges, as was formerly done.

As an illustration of one of his methods of washing, an example is made of that kind of ovarian tumor which contains gluey material, and which does not easily run through a tube. In this class of tumor the cyst wall is extremely thin, and frequently gives way, scattering the gluey material about through the intestines. Sponging here fails to remove thoroughly this foreign material, which, however, can be removed by a stream of lukewarm water, in which it is easily soluble. In order to introduce the stream of water, use is made of one or other of two trocars. These trocars are simply curved tubes, having a very blunt, bevelled and chisel-shaped edge, provided with two eyelet holes through which the fluid may run. Two sizes are used, the larger being employed when a rapid stream is required, as, for example, when large blood-clots have to be removed in cases of ruptured tubal pregnancies; the smaller, in cases in which to make the washing thorough, the stream requires to be slow, as in the case of gelatinous tumors, or the purulent and flucculent effusion met with in tubercular peritonitis. One end of the India-rubber tubing being attached to the trocar, the other is placed in a ewer of blood-warm water, which is then syphoned into the abdomen, the point of the trocar being made to travel in any direction which may be thought necessary. The soiled intestines, in order to be thoroughly cleansed, must be gently moved about by the fingers.

The water used should be of a temperature of 103°—107° F., a temperature which the operator's hand can bear with comfort. (A nurse's hand being so inured to the use of hot water cannot be trusted to test its heat.) Very hot water is sometimes useful in arresting the oozing from small bleeding points. In this case a stream of hot water of a temperature of 120° F. may be directed into the pelvis for a few seconds. No attempt is made to sterilize the water, as nothing but the ordinary domestic water from the tap is used, sufficient hot water from the kettle being added to raise it to the requisite temperature.

The method of cleansing the peritoneum by means of sponges, the author has almost altogether given up, as he believes that it is attended with much danger in the case of an inflamed peritoneum. He generally confines the use of sponges to the arrest of hæmorrhage from small bleeding points, the pelvis being stuffed with them, while the sutures are being inserted.

Occasionally a sponge is used for the purpose of removing the remainder of the water used for washing, but of late a drainage tube put down to the bottom of the pelvis has been employed, and the fluid removed by means of a sucker. As soon as the pelvis is dry, the drainage tube is removed and the last stitch adjusted. To the method above described the author applies the word *primary*. For the *secondary* cleansing of the peritoneum the drainage tube is employed. At the present time this does not frequently require to be used in the case of ovarian tumors, owing to the fact that adhesions, caused by repeated tappings, are seldom present. Only in five per cent. of the author's cases of ovariotomy, has he employed drainage, and these were in patients of an advanced age, in whom the power of absorption by the peritoneum is not so active as in younger ones.

It is in the operation for removal of diseased uterine appendages that the drainage-tube is found to be most serviceable. In this operation the bleeding from old adhesions, and from vessels which cannot be reached deep down in the pelvis, is often considerable. If sponge pressure fails, the drainage-tube is a useful hæmostatic. The nurse is directed to empty the tube every few minutes, so long as blood wells up through it. In some hundreds of cases operated on, death from hæmorrhage has only occurred once in the author's practice. In three cases, life has been saved by the injection of solution of perchloride of iron through the tube on the bleeding surface. The explanation given of the hæmostatic action of the drainage-tube is that it permits coils of intestine to fall down from bleeding surfaces, and so economizes the force of those laminæ of clot which rapidly extend over those surfaces. By its use the fact that hæmorrhage is occurring can be recognized, and further steps taken if it should prove to be serious. In those cases in which a hole has been torn in the rectum a wide tube should be inserted, through which the contents of the intestines may pass.

Owing to the fact that intestine and omentum rapidly become adherent round the tube, it is only during the first seventy or eighty hours that any drainage-tube is of use in cleansing the general cavity of the peritoneum. When effusion caused by a chronic inflammatory condition of the peritoneum is to be removed, a tube, exactly resembling a common test-tube, but perforated throughout its entire length by small holes, is employed. This form of tube is more useful than Keith's, on account of its not being open at the bottom, and therefore not being liable to punch a hole in the intestine by its own weight or being forced down by a heavy dressing. It is also much less open to the entrance of small pieces of omentum, and to the liability of becoming blocked. The holes being all over the tube the upper as well as the lower part of the abdomen are more effectually drained.

When the tube is used for the purpose of general cleansing, it should be removed at the end of three or four days. When, however, it is used in abscesses or suppurating cavities it must be kept in longer, and after four days it may be well to substitute for it a soft India-rubber tube of small diameter.

MECHANICAL TREATMENT OF VOMITING IN PREGNANCY.—Dr. J. W. Flanders, in a paper published in the *Atlanta Medical and Surgical Journal*, February, 1888, says that nausea and vomiting in pregnancy is so common that it is regarded as a physiological necessity, and a majority get well without treatment. There are cases, however, that resist all treatment short of the complete removal of the cause. The belief by the people that vomiting is absolutely necessary for the well-being of pregnant women has no doubt caused a great deal of suffering where relief might have been obtained. He has often heard great fears expressed for pregnant women on account of the absence of nausea and vomiting, and for this reason one is seldom called on to treat those cases until their conditions have become alarming.

In 1875 a writer published in the *Maryland Medical Journal* his experience in the treatment of one of those uncontrollable cases. He was called into the country to see a woman in her first pregnancy, suffering from nausea and vomiting, and after exhausting his skill in the vain attempt to relieve her, and seeing that she could not live much longer without relief, suggested to her husband that he would have to produce abortion or his wife would die. He urged the doctor to do anything that gave any hopes of relief. He attempted to produce abortion by pushing his finger through the cervix and rupturing the membranes. Failing in this he returned to the city to procure assistance, and to his astonishment, when he returned, found his patient quiet, not having vomited since he left her. He did nothing more for her, and she went to term without further trouble.

In Pepper's System of Medicine Dr. Copeman, of Norwich, England, claims to have made the same discovery of this plan of treatment about the same time and in the same way.

Not long after the publication of the article referred to, Dr. Flanders says he was hastily summoned to see Mrs. S., who was pregnant for the first time. Realizing the fact that her case was a grave one, he lost no time in getting to her bed side. She had been vomiting several days—in fact, had retained nothing on her stomach for a week. Her extremities were cold and pulse not strong enough to be felt at the wrist, and she was in a state of low, muttering delirium, and vomiting a glairy mucus constantly. He gave her a dose of oxalate of cerium and ingluvin combined, and oiling his index finger gently worked it into the cervix and pushed the uterus up. The vomiting ceased immediately. In a few minutes wine was administered, which was retained, it being the first thing her stomach had retained in a week. She went to term without further trouble; however, she was instructed to take a dose of lactopeptine after each meal.

Soon after this a physician, living in an adjoining county, called the author to consult about the case of a woman to whom he had been called a few days before, and stated that she had been vomiting about four weeks, and during all this time had retained nothing on her stomach. She was then reduced to a skeleton, and was so weak that she could not turn her head on the pillow without assistance. She had been under the treatment of another physician who had abandoned her to her fate. She was still vomiting a thin, glairy mucus. The mechanical treatment above described was suggested to him. He reported subsequently that he carried out the suggestions of Dr. Flanders, and that she had vomited only once afterward, and he thought that that was caused by some error in diet. In a remarkably short time she had so far recovered as to attend to her household duties.

PREPUTIAL ADHESION AS A CAUSE OF NOCTURNAL INCONTINENCE OF URINE IN BOYS.—Dr. R. Burke, of Middletown, N. Y., in a communication to the *Massachusetts Medical Journal*, February, 1888, reports fourteen cases of nocturnal incontinence of urine. In twelve of them he found preputial adhesion, and in every instance cure followed its relief. In one of the two cases in which he *did not* find this anomaly, a large collection of smegma appeared to have been the cause of the difficulty, as its cure was effected by a simple removal of the matter and the application of an astringent lotion. The other was a young man just passed puberty, in whom the introduction of a No. 8 steel sound half a dozen times was followed by a relief of the incontinence. He soon lost sight of this patient, however, and is not able to vouch for the permanence of the cure. In all the twelve cases referred to, the difficulty had lasted from two to eight years. In one, there was involuntary nocturnal passage of fæces as well as urine, both of which were completely cured by a detachment of the existing adhesion. If the habit is an old one, however, the author thinks that some weeks will often elapse before an entire relief of this distressing trouble is obtained by the operation.

In recent writings on this subject, phimosis is spoken of as one of the causes of this disease. None of the author's cases, however, had sufficient narrowness of the preputial opening to entitle it to the name of phimosis. He expresses the opinion that, in a vast majority of instances, the adhesion referred to will be found the sole cause of the difficulty, especially if it is of long standing. Bryant, though recognizing this as one of its causes, still recommends circumcision as its means of cure. Though a redundant prepuce may be a nuisance in an adult, and circumcision a sanitary precaution, some parents may object to having this Jewish rite practiced on their boys simply for an occasional "wetting of the bed." In such cases the facts above stated may be borne in mind—the adhesion sought for and broken up by a probe; or, if this should fail, by manipulation. In all his cases, this adhesion was found to be little more than a gluing of the preputial and glandular surfaces, and never requiring the knife for its relief, but only a little firm pressure upon the glans, while the skin is forcibly drawn back. As a rule, no blood follows this operation, and the smooth, glassy surface of the glans shows no decided marks indicating the place of attachment. He noted also that there was rarely, if ever, any collection of smegma or signs of inflammation behind the seat of the adhesion. The cause of this he regards as a congenital one.

A number of reflex morbid phenomena, he says, are clearly traceable to various forms of irritation of the genital organs. A somewhat extraordinary case of the kind recently came under his observation. The subject was a delicate youth of twelve years, who had been suffering for twelve months from epileptiform convulsions. The author's attention was directed to an examination of the genital organs by the fact that the seizures only happened at night. A typical glandulo-preputial adhesion of the form described was found, the relief of which effected a complete cure, as not a single attack occurred after the operation. From the above showing, neither phimosis nor balanitis appear to be the cause of nocturnal incontinence of urine in a majority of cases. It is certain that in many instances where one or both exist, there is no incontinence. He therefore suggests the possibility of glandulo-preputial adhesion as a specific cause of not only "bed-wetting," but of the other reflex phenomena referable to morbid conditions of the genital apparatus. When phimosis exists, there is always the possibility of adhesions also, which cannot be detected until circumcision or slitting of the prepuce has been performed, when it may either escape observation or be passed over as rather a complication than the real source of the trouble. He remarks that, in the single case of incontinence above referred to, in which there was only an accumulation of smegma, the incontinence had existed but a short time.

THE OSTEOGENETIC FACTORS IN THE DEVELOPMENT AND REPAIR OF BONE.—In the *Annals of Surgery*, October and November, 1887, Dr. William Macewen, Surgeon and Lecturer on Surgery in the Glasgow Royal Infirmary, has a long article upon this subject. He lays down his opinions in the following propositions:

A. When the periosteum has been mechanically detached from an extensive area of an adult healthy bone and replaced after the lapse of some hours, union between the bone and the periosteum can take place without sloughing or observable augmentation ensuing.

B. The periosteum may be separated from the bone for a period of days by inflammatory products, after the withdrawal of which reunion between the periosteum and the bone may take place without necrosis ensuing, showing that the temporary separation of the periosteum from the bone, even as a pathological result, is not necessarily attended by death of bone.

C. The periosteum covering a portion of bone may be completely destroyed or permanently removed, yet the denuded bone may not only retain its vitality, but may throw out cells which will cover it and form a new periosteum.

D. A portion of bone which has its continuity severed on all sides, and at the same time has had all its periosteum removed, is capable of living and growing.

E. Not only do detached portions of bone deprived of their periosteum live when re-implanted in their original position, but such portions are capable of living after transplantation. Parts of deeper layers of bone which had no periosteal connection have been transplanted, and have lived and grown.

F. The periosteum does not initiate the reproduction of bone.

G. Bone may be regenerated independently of the medulla, which may itself be reproduced.

H. The histo-genetic phenomena support the foregoing observations, showing that the periosteum does not generate the bone.

TREATMENT OF BRIGHT'S DISEASE.—In a paper on acute Bright's disease, read at a meeting of the Medical Society of New York, at Albany, February 8, 1888 (*Medical Record*, February 11, 1888), Dr. Francis Delafield gave the following brief statement of its treatment:

In that form of the disease characterized by changes in the cells alone, it does not seem probable that any treatment can be of avail. We are not possessed of any means by which we can affect acute morbid changes in the epithelium of the kidneys.

In exudative nephritis two separate sets of symptoms present themselves to us for treatment—those due to the nephritis, and those due to the complicating disturbances of the circulation. For the nephritis we naturally employ the same methods of treatment which are appropriate to an acute exudative inflammation in any part of the body; for the disturbances of the circulation we use the means by which we can regulate the action of the heart and put a stop to contraction of the arteries.

In acute diffuse nephritis the problem of treatment becomes much more complicated. The inflammation of the kidneys may be, at the first, of an acute or of a sub-acute type; the complicated disturbances of the circulation are developed to a great degree; the long continuance of the disease has its effect on the entire nutrition of the patient; the character of the lesion is such that we hope for the alleviation of symptoms and the prolongation of life rather than for the cure of the patient. Now, let me ask you to apply this classification of acute Bright's disease to your own cases:

1. You have seen primary cases which gave well-marked renal symptoms for days or weeks, and then recovered completely, with the exception of a few very severe cases, which terminated fatally. These were examples of exudative nephritis.

2. With scarlatina and diphtheria, with pneumonia, with typhoid fever, with many of the infectious diseases and of the acute inflammations you have often found albumen and casts in the urine, but no other symptoms. These were examples of mild exudative or of parenchymatous nephritis.

3. You have seen women, in the latter months of pregnancy, with albumen and casts in the urine, sometimes with dropsy, sometimes with cerebral symptoms. You have found that if the patients survive their immediate danger that most of them have no further kidney trouble, but that a few will, later, give the evidences of a chronic nephritis. This means that these patients have suffered from more or less severe forms of exudative nephritis or from diffuse nephritis.

4. You have seen primary cases which began with headache, nausea, anæmia, dropsy, and albumen and casts in the urine, which went on for months or years, sometimes better, sometimes worse, until they died of their disease. These patients had diffuse nephritis.

5. You have seen diphtheria or scarlatina followed for months and years by renal symptoms. This again means a diffuse nephritis.

So, no matter what names are used, I believe that we can group all the cases of acute Bright's disease into three classes:

1. In which the principal share in the morbid process is taken by the blood-vessels, and in which the principal evidences of the inflammation are the matters exuded from the blood-vessels.

Such a nephritis varies as to its severity and its fatality, but is regularly only a temporary lesion.

2. One in which the principal share in the morbid process is taken by the renal epithelium, and in which the evidences of inflammation are certain changes in these epithelial cells.

Such a nephritis is regularly secondary to other diseases, and does not give constitutional symptoms.

3. One in which the principal share in the morbid process is taken by the stroma, and in which the evidences of inflammation are permanent connective tissue in the stroma, with, in addition, the lesions of exudative nephritis.

Such a nephritis is regularly a permanent and progressive lesion, and is attended with well-marked constitutional symptoms.

Treatment for Boils and Carbuncles.—In a communication to the French Academy of Medicine, at a recent meeting, M. Verneuil says:

The topical application (prominent among which stand the carbolated and borated solutions) employed in a certain way, and particularly in the form of powder used repeatedly and for a long time, are of remarkable efficacy, and, at the same time, are absolutely harmless and easy of application.

These applications of powder quickly abort, with very few exceptions, boils and carbuncles. They arrest the progress of the disease in the gravest cases, ordinarily cause the pains to quickly cease, reduce the fever, disinfect the purulent and gangrenous centres, hasten resolution, and promote the formation of healthy granulations.

This treatment is suitable for all regions, and for all forms and periods of the disease. It is never harmful, and leads to a cure in a large number of cases. It assists surgical interference, when that is necessary.

Finally, it tends to prevent auto-inoculation and general infection.

COCAINE IN OBSTETRICS.—Dr. J. Phillips in the *Lancet*, gives an analysis of the more important contributions to this subject, of which the following represents his more important conclusions:

1. *Vomiting of Pregnancy.*—Weiss administers hydrochlorate in doses of one-sixteenth of a grain, by mouth, every half hour. Fraipont prefers to administer it, by subcutaneous injection of twenty minims of a four-per-cent. solution, into the epigastrium. Engelmann relates a most obstinate case, where morphine, cauterization of the os uteri, and injection into the rectum of CO_2, had all been tried without avail. He gave ten minims of a ten-per-cent. solution, thrice daily by mouth, with recovery in two days. Bois relates the case of a young multipara, who was brought to a moribund condition by pregnancy vomiting; she had arrived at the fourth month. He made a pomade of cocaine hydrochlorate and vaseline (one in fifty), and placed a piece the size of a filbert against the os uteri: a fresh application was made night and morning. Amelioration of her symptoms soon began, and, at the end of three weeks, recovery was complete. The writer had two cases. In a nervous primipara, at her seventh month, vomiting occurred after every meal, and she was induced to lie upon the couch all day; but, unfortunately, with no good effect. After trying the usual remedies, he prescribed as follows: Cocain. hydrochlor., one-tenth grain; tinct. aurantii, m.x; mist. chloroformi, ʒss; aquæ ad ʒj; every three hours. There was a peculiar numb sensation, about the tongue and fauces after each dose, but the effect upon the stomach was remarkable. The vomiting gradually ceased, and in three days she was able to take soup, and in a week became quite well, and went to the termination of her pregnancy without further trouble. In Case II., vomiting was general all day, the patient being at the end of the fourth month. The drug was administered as before, and was taken continuously for a fortnight. The vomiting gradually ceased, and never returned. Of course, here it might have stopped, in consequence of the natural progress of pregnancy.

2. *Early Stages of Labor.*—Mr. Phillips had four cases, three being successes, and one failure. A. B., a primipara, aged 18 years, had

been in labor six hours when he saw her. The os uteri just admitted the tip of the examining finger, and no thinning of the lips had as yet occurred. The pains were most severe; she was throwing herself about and crying continually. One of Head Moore's cones was inserted immediately after the pain; it was almost entirely dissolved in nine minutes. The effect was at once apparent, the pains coming more regularly even than before; but between them the patient gradually dozed off and cried out no more. The effect of the drug was kept up for four hours, at the end of which time the os uteri was thinned out and dilated fully. Labor terminated naturally. The next two cases were counterparts of the foregoing; but the last, for some unexplained reason, was entirely unrelieved. In order to understand the effect of the drug, we must try to analyze the early pains of labor. Two agents unite to produce them. 1. The pain of uterine contraction, similar, indeed, to any other organ consisting of smooth muscular fibre, endeavoring to expel its contents. 2. The pain resulting from the stretching of the nerves of the cervix, and the lacerations of the cervical tissue, which doubtless occur. Over the first, cocaine has no control, and its beneficent effect in this stage is due to its mitigation of the second kind. Doleris painted the uterine neck, through a speculum, with a four-per-cent. solution of glycerine and hydrochlorate of cocaine. Of eight cases, in six, the results were decidedly affirmative. Jeannel relates six cases, and in five of them (three of which were successful) he applied cotton-wool tampons, soaked in a five-per-cent. solution, to the cervix and posterior vaginal cul-de-sac. In the first case, he cautions us against the use of bichloride of mercury with cocaine, as he found the former decomposes alkaloids with great rapidity. In three successful cases by Fischel, a two-per-cent. solution was applied to the cervix, on a tampon, and repeated every twenty minutes. In two others, however, a similar application of a four-per-cent., and then a two and a half-per-cent. solution, produced a negative result. The method adopted by Hartzhorne is to introduce through a female glass syringe, as high up as possible, behind the cervix, the following mixture: Cocaine, 6 parts; glycerin, 20; and vaseline, 24.

Mr. Phillips differs with those who use the speculum. The objections appear to be (1) the exposure necessary; (2) the idea which must imbue the patient that some operation is about to be performed, in spite of assurances to the contrary; (3) the removal of the vaginal discharge necessary before the application of the drug, which would be detrimental to the course of labor; (4) a very large number of hyperæsthetic primipara can scarcely bear an ordinary vaginal examination, much less the introduction of a speculum, and these are the very cases in which cocaine is of so much value.

3. *Expulsive Stage of Labor.*—Here the factors causing pain are much more numerous. The pain from compression of the mucous membrane against the pelvic bones, is the only form that any relief is obtained from, as all mucous membranes are anæsthetized by a two-per-cent. solution of cocaine. The part this factor, however, takes in

the totality of an expulsive pain, must be so slight that it may be neglected, and, almost before making experiment, we can say, on physiological grounds, that any certain or marked relief is out of the question. In six cases in which he has tried the drug, either in the form of saturated tampon (five-per-cent.), or painting the vulva with it, he has found practically no amelioration of the pains. It is little probable that cocaine can be used as a local anæsthetic in labor, because anæsthesia and analgesia developed under the drug, are essentially superficial, while the pains of labor are the result of distention and stretching of the tissues, through their whole thickness.

4. *Obstetric Operations.*—In this class it has suggested itself, that cocaine might be useful to anæsthetize the vulva, in the operation for introduction of premature labor by catheter, or the application of forceps on the perineum, or removal of adherent after-birth. Hale reports two cases where it was entirely successful in post-partum "vesical neuralgia." He injected twenty minims of a two-per-cent. solution into the urethra, with an immediate disappearance of the pain. A case is related in which cocaine was applied with success, to the vulva of a recently delivered woman in order to pass the catheter, and there seems no reason why in cases like this the drug should not be of great service.

5. *Sore Nipples.*—Hergott first made a local application of a four-per-cent. solution, in nine cases, and concludes that suckling can be allowed without pain. The fissures rapidly heal, and cauterization of them by nitrate of silver becomes a painless proceeding. Mecuen found complete relief from pain in three cases. Mr. Phillips has tried a six-per-cent. solution in four cases. The anæsthesia produced was more or less deep, but only lasted two minutes, and the sores certainly did not tend to heal more quickly. In three cases weaning was deemed necessary, while on the fourth, healing took place, and successful lactation followed. Children do not object to taking the nipple after the application of the drug, nor do they appear to suffer in general health.

We may, therefore, draw the following practical conclusions: 1. That cocaine, in whatever way administered, for uncontrollable pregnancy vomiting is a valuable adjunct, and in some cases a superior drug to those at present in vogue. 2. That during the painful earlier stages of labor, especially in primapara, it materially assuages the pains, but neither quickens them nor retards their onset, and hence has no effect on the actual dilatation. 3. That it is useful in mitigating the pains of expulsion, and those caused by pressure on the perineum. 4. That in case of sore nipples it relieves the pain attendant on suckling, though the duration of its effects is not sufficiently long to be of material service.

DIPHTHERIA.—J. Lewis Smith, in the *Jour. Am. Med. Ass'n.*—One principal reason why there is such a difference of opinion in regard to the value of remedies is because the disease varies so greatly in severity in different localities and at different times. According to some observations made by Lunin, turpentine was found to be the most useful agent in the fibrinous form of the disease, and tincture of chloride of iron in the phlegomonous and septic forms. By many physicians bichloride of mercury was at the present time considered the most efficient remedy; but it was necessary to use it with great caution, especially in the form of a spray, or where it was given internally at the same time that the spray was employed. The quantity that can be safely administered to children of various ages is about as follows: To a child of two years, 1/6 grain; four years, 1/4 grain; six years, 1/3 grain; ten years, 1/2 grain.

Among the other agents considered by Dr. Smith were sodium benzoate romine, calomel, quinine, copaiba, cubebs, pilocarpin, tincture of chloride of iron and potassium chlorate. He spoke in strong condemnation of the use of pilocarpin on account of the disastrous results liable to be produced by it, stating that he had seen it cause symptoms resembling those in extreme œdema of the lungs. He gave the following prescription, which he said had been long and favorably known in New York, and was probably more frequently written, with some variations in its proportions, than any other in diphtheria:

℞.	Tinct. ferri chlor.	fʒij-iij.
	Acid. muriat. dilut.	gtt. x.
	Syr. simplicis	f℥iv.

M. Dose.—One tablespoonful every one or two hours.

In the solvent action of papayotin and trypsin on diphtheritic membrane, Dr. A. Jacobi had met with good results, employing a mixture of one part of papayotin and two parts each of glycerin and water. The solvent action of trypsin, like that of lime-water, was increased by using it in connection with an alkali, and he suggested the following formula for a spray:

℞.	Sodii benzoat	ʒj-ij.
	Sodii bicarb.	ʒij-iij.
	Trypsin	ʒj.
	Ol. eucalypti	fʒj.
	Liq. calcis	oj.

Dr. C. A. Leale, in order to overcome the difficulty of feeding the patient, so commonly met with, after intubation or tracheotomy, had introduced a No. 8 velvet-eyed rubber catheter into the stomach by way of the nose, and the injection through it, by means of an ordinary syringe, of any kind of liquid food that was required.

Dr. Fauvel's Opinion on the Nature of Frederic the Third's Disease.—The celebrated Dr. Fauvel, who has published a treatise "On the Diseases of the Larynx," has given his opinion concerning the Emperor's malady: Viewed clinically, the progress and symptoms of the disease demonstrate peremptorily that it is of a cancerous nature. Consumption of the larynx does not assume this form, and the histological examination has never attested the presence of baccilli in the "sputum." The hypothesis of "syphilis" must be completely put aside. All the symptoms tend to prove the cancerous nature of the disease. I have demonstrated that cancer almost always attacks strong, vigorous men in good health, from fifty to seventy years of age, particularly smokers. Women are seldom liable to it. But the clinical character, the progress of the malady, the necessity for tracheotomy after several suffocative attacks, clearly indicate the special nature of the disease. The only thing wanting now to establish a mathematical certainty indisputably, are the anatomical signs afforded by the histological examination. They are still wanting; at least, the result of the last analysis has not yet been made public. It is easily to be understood how many medical men still have a doubt as to the definite nature of the disease. I sincerely wish I could share their hesitation, but such is not my opinion. I believe it would be wise to act energetically, to perform the radical operation termed "laryngectomy," signifying ablation of the larynx, and not larynxgotomy, which only means "opening of the larynx." The same result could be obtained by medical treatment, consisting in hypodermic injections of arsenic or phenic acid. But, unfortunately, there will be delays, hesitation, and the opportune moment will be allowed to slip by. With regard to survival after "tracheotomy," without ablation of the larynx, there is no precise information; six months, one, two or three years, seldom more.

PROCEEDINGS OF SOCIETIES.

CÆSAREAN SECTION.

Dr. E. G. Zinke, of Cincinnati, read an exhaustive paper before the Cincinnati Academy of Medicine on the above subject. The following is a resumé of the whole paper from the discussion:

Dr. C. D. Palmer said no one could have listened to this paper without being interested and instructed. Not only does the paper possess these qualities, but it has more than ordinary value. Every such case ought to be reported, and when a report is as thorough and painstaking as this one has been, it is a matter of congratulation on the part of the Society.

Being present at the post mortem, he could testify to the accuracy of the pelvic measurements as reported.

The pelvis, if classified, might be called a justo-minor, except that the anterio-posterior diameter of the brim was contracted out of all proportion to the remaining diameter. The contraction at the brim was about two inches at the conjugata, and one to one and one-fourth inches for the oblige diameters.

What was the proper management of the delivery in this and similar cases?

In the treatment of pelvic deformities we have at our disposal five different, distinct methods of delivery, viz.: The induction of premature delivery; the forceps, version, craniotomy (or its improved modification), and Cæsarean section, or some of its modifications.

While these come in conflict, in some cases, to a great extent, each has a special field of application. How do they apply to the particular case under consideration?

Although the question of the induction of premature delivery has no direct bearing in this instance, at the same time it may be interesting to inquire whether this poor woman could have been delivered of a living child if the condition of her pelvis had been realized early enough in pregnancy, or whether, if she had recovered and again became pregnant, could she have been delivered per vias naturales?

Premature labor is induced for the sake of both mother and child, from the thirty-second to the thirty-sixth week of utero-gestation—the earlier the better for the mother; the later the better for the child, cæteribus paribus. Delivery has been induced as early as the seventh lunar month, with a living child, with a pelvis as small as 2.6 inches conjugate. But, when we call to mind that the pelvis of the reported case was not only this small in the conjugate, but contracted in all other diameters, it implies that delivery would necessarily have to be induced prior to the end of the seventh lunar month. It would probably have to be completed by the forceps or version, with some delay, and at a time when the child was very young and feeble. It seems merely possible that it could have been born alive; or, if alive, for it to live on account of prematurity.

It is safe to say that the induction of premature labor with a live child was in this case impossible.

If this woman had survived and again become pregnant, one of two things would have had to be done—-the induction of abortion very early in the pregnancy; or, better than that, the allowing of the pregnancy to go on to term, and then, at a favorable time in labor, to perform abdominal and uterine section.

This was no case for the forceps, for the range of this instrument is for pelves from 4 inches to 3.5, or 3¼ in conjugate. He would not wish to condemn the practice of the gentleman who used the forceps in this case, hoping thereby to effect delivery. Under the existing circumstances, a non-acquaintance with the exact pelvic dimensions to be encountered, a lack of knowledge only to be supplied by the experience there obtained, almost any obstetrician would have at first applied the forceps to test what they could do. Their application could do no harm, unless their use was persisted in unduly and forcibly.

Nor was this a case for the performance of podalic version. The range of application of version is in pelves with conjugate from 3.5 or 3½ inches to 2¾ inches.

Version is done with the expectation of delivering a living child, and in proper cases offers a most useful means to improve upon nature's mechanism, as well as the utilization of additional forces to aid expulsion of the child.

The conjugate diameter of the pelvic brim is more frequently and decidedly contracted in pelvic deformities than any other; therefore its measurements have served as the chief guide—the key to the lock of the pelvis.

A conjugate ranging from 2¾ inches to 1¾ inches is the field for the utility of craniotomy and Cæsarean section. The conjugate of the pelvis under discussion was 2.5 inches and within this range. Manifestly, then, one or the other of these two methods was to be considered. A live child at term could not have been delivered per vias naturales; and, if the child were to be saved, Cæsarean section offered the only resort.

As a general rule, we may say that if the child is dead, with these pelvic measurements, craniotomy is the proper resort; and, if alive, Cæsarean section; but no absolute, inflexible rule can be laid down—there are exceptions always. Under certain conditions, craniotomy may be the best, even although the child is alive; and Cæsarean section is to be preferred with a dead child if the pelvic contraction is very great.

To a great extent, Cæsarean section is the operation of selection; while craniotomy is the operation of necessity.

In all cases we are to look first to the mother. Her interests are not tantamount, but paramount. This principle in management, though old, stands as strong to-day as it ever did.

While a mother is undoubtedly called upon to sacrifice somewhat of her chances for life, that she may have a living child, she should not be asked to sacrifice life itself. No woman in parturition should be advised to submit to operative procedures which place her life in great jeopardy for her child's sake, if there be a more favorable way. Unless there is a reasonable prospect of saving her life, as well as the infant's, the Cæsarean section should be ruled out. She has the right to decide.

In a recent discussion of this subject, Dr. Meadows, one of the most eminent obstetricians of Great Britain, exclaimed: "Where, now, is craniotomy?" In reply the speaker would remark: "It still lives, and ought to live."

The question of the risks of each, in determining between these two operations, is next, then to the life of the child.

With pelvic contractions not greater than 2.5 inches, the risks of craniotomy are not great—less than by Cæsarean section. If done early, very few need die. Death after craniotomy is largely due to delays and injuries from other manifestations. But the risks rapidly accumulate when the contraction extends below 2.5 inches. Near to 2 inches they exceed those attending Cæserean section. All things being equal, as to the time of operations and conditions, it may be said that the risks of the two operations are about the same, with a pelvic measurement at 2.5 inches; at this point these two operations must come into severe competition. If the mother's interests are paramount, craniotomy is not to be laid aside unless Cæsarean section holds forth equally good chances for her life.

The following is a condition in which craniotomy is justifiable, although the child is living: A long, difficult labor, extending over many hours—it may be days. All the liquor amnii has drained off; the uterine discharges are dark, unhealthy-looking, offensive. The fœtal head is impacted within the pelvis, or, it may be floating over the brim. The cervix is swollen or bruised; the vagina swollen, livid. The uterus is tetanic or has ceased to act. The patient exhausted, anxious face, frequent pulse, feverish. This is no uncommon picture. What conditions are these for uterine section? What chance has such a woman for recovery after Cæsarean section? In what condition is such an uterus to be cut; to contract; to be sewed; to heal? Craniotomy; unless the contraction is at or below 2.5 inches, offers a far better chance for the mother.

Much of the opposition to craniotomy has arisen from two reasons. First, because it has been performed too frequently, and of course unjustifiably; but abuse is no argument for total abolition. Second, because of the very favorable reports attending Cæsarean section, especially in Germany. In the hands of Sänger, Martin, Leopold, Credé and a very few others, the recovery has been nearly 80 per cent. If we contrast this high rate of recovery in Germany with the rate in the United States, it speaks very unfavorably for us. Out of nearly one hundred and sixty cases collected from this country by Robert Harris, the rate of recovery is only 37.5 per cent. These figures must not be taken on their face without inquiry into the attending causes and circumstances.

In the first place, the operations in Germany are done by a few experienced and skillful men. Most of them have been performed in hospitals with good surroundings. They have been done early in labor at the most favorable time. As a rule, the exact opposite is true in the United States. No better proof is offered of the earliness of the operations done abroad than out of thirty-three cases, thirty-one children were born alive. If we select the cases in which the operations were performed early in the United States, we will see that the rate of recovery is very good—viz., about 70 per cent.

Sänger has placed great stress upon his method of suturing. While the speaker would not wish to detract one iota of what is justly due this faithful and deserving worker, nevertheless it must be apparent to the careful investigator that his great success is not attributable so much to this as to the early performance of his operations. The Sänger operations in this country (five cases) have all proved fatal because they were done late. The Sänger technique could not save them. They died in spite of the operation; they died in advance of the operation.

The great factors of the success of Cæsarean section are: First, that it is to be done early, while the general condition of the patient is still good and while the local conditions are favorable. Second, it must be done antiseptically. Third, the uterine wound must be most carefully sutured. The first factor is the most important of them all.

Now, this conflict between craniotomy and Cæsarean section will continue so long as the dangers of the latter exceed those of the former. When the technique of the Sänger operation is perfected, when this operation is well understood, when the operation is performed early, when pelvic deformities in this country are more thoroughly studied and appreciated—then will the section be more frequently made, its rates of success gradually increase, and in the same ratio will the necessities for craniotomy equally diminish. Then will we be obliged to encounter a fewer number of those dreadful cases when, at our first interview, we are brought face to face with a parturient woman, exhausted after several days' labor, a midwife and several practitioners in attendance, each having exhausted himself with fruitless efforts to deliver, with soft parts swollen, bruised and lacerated, and finally craniotomy or section with a forlorn hope.

The abolition of craniotomy on living children is a consummation devoutly to be wished, but in the present state of affairs, it is an advance not yet to be realized.

In the case of Dr. Zinke, conditions were certainly not favorable for the operation of Cæsarean section; still, it was probably to be preferred to craniotomy, because the child was living and because the pelvic measurements were at that border line where the risks of the two operations did not widely differ. Of course, it will now remain an open question whether this woman might not have recovered under craniotomy.

The speaker did not regard this as a proper case for the Porro operation. The uterus was in fair condition for section, and it is always to be preferred, except in those instances where the organ is bruised, lacerated, gangrenous or septic. These complications may make the Porro-Muller operation not only superior but necessary.

Lapero-elytrotomy possesses certain advantages in the diminished risks of a loss of blood and septic infection, but its technique is not so well understood or so easy of execution. The improved section is generally preferable.

The improved Cæsarean section is the outgrowth of many advances in abdominal surgery running through a long period of years. Although the Sänger method has nothing distinctly original due to Sänger, but embraces points introduced and executed by Muller, Frank, Leopold, and Kohrer and others, nevertheless Sänger has formulated all these improvements and shown their combined utility. Hence with perfect propriety, the operation as now understood, and now recognized as the best, ought to be called the "Sänger."

In conclusion, the speaker said the Cæsarean section had only been performed three times in Cincinnati to his knowledge; once by Dr. Walton on a dwarf, done early; once by Dr. Dandridge (lapero-elytrotomy), done late; and, finally, the case reported this evening by Dr. Zinke. All were fatal.

AT A RECENT meeting of the French Congress of Surgeons, there was a discussion on the Recurrence of Cancer: Reappearance of operated Neoplasms and Inquiries into the causes of Prophylaxy. M. Cazin showed the result of his practice from 1862 to 1886, in reference to the recurrence of operated cancers in the breast. He attributes the comparatively considerable proportion of his success to the course of treatment he has always followed, namely, very large ablation, even when the ganglions are quite healthy, without reference at first to the remitting of the axilla and ablation of the intermediate lymphatic trunks to the tumor and the axillary ganglions. M. Verneuil said: Besides the operative precautions so well described by M. Cazin, the means to be employed to prevent the recurrence of cancer are still the subject of study. What have we as a preventive against these complaints? As a rule, a six months' treatment after the operation is the only thing recommended. Nevertheless I think that these germs, in the embryo state, may be destroyed or attenuated by medication, inapplicable in cases of declared cancer. I recommend, after the operation, a permanent arsenical and alkaline treatment, say three milligrammes of arsenic per diem, and a teaspoonful of magnesia in a glass of cold water every night, in connection with an entirely vegetarian diet. I am aware that M. Reclus is on the point of publishing some important papers on this question; and must admit that cancerous affections are greatly on the increase. It is well known that since the rural populations have taken to eating meat more generally, tuberculosis and arthritism, which foster cancerous growths, have been on the increase. " M. Poncet said that, looking to the whole of the facts brought under observation, he concluded that: Relapse is nearly always fatal in subjects presenting a direct cancerous heredity. 2. When the ganglions are attacked, the tendency to relapse increases. 3. The best hope of a cure lies in a rapid and comprehensive ablation. In certain regions no hesitation should be felt in carrying out the preliminary operations, although these might seem out of proportion with the tumor to be removed. 4. It is however desirable to abstain from attempting any radical operation under too unfavorable circumstances; numerous cases only justify palliative action. M. Labbé (of Paris), said it was difficult to give an opinion on the question based on authentic figures, but the opinion of an experienced surgeon might be of some weight. The necessity of large local and ganglional ablations, was generally admitted in surgery, yet patients, as a rule, do not easily consent to the removal of a limb, to all appearance but little diseased." A denoidal tumor of the breast, the recurrent tendency of which I pointed out to M. Coyne, is an interesting study. In this, a bare enucleation is notoriously insufficient; it is necessary to go far beyond the enveloping capsule. Furthermore, when such tumors have taken considerable extension, the entire breast has to be removed; and then, the remainder of the gland, which is pressed back eccentrically and flattened, has to be sought for; and it is hard to find, as I recently demonstrated to some young surgeons at the hospital. By taking this precaution, the six or seven successive regrowths in this rather mild form of tumor of the breast, are prevented. I will say a word on immediate antoplastics of which I am a warm partisan, especially where the face is concerned, as there, ablations, as extensive as required, may be affected. A case I have had under treatment for the past six years, that of a man from whose face I removed the entire cheek on one side, together with the sub-maxiliary ganglions, has been attended with perfect success. In partial epithelioma of the face, the application of 'Côme Bros.' *caustic balm*, is to be preferred to the bistoury. Finally, I entirely concur with M. Verneuil as to the definite treatment to be followed after the operation; and I furthermore recommend the application of Nüssbaum's tincture of condurango."

SANITARY.

Bacilli in Salt Water.—Dr. John B. Hamilton, Surgeon-General of the United States Marine Hospital Service, makes the following report of Assistant Surgeon J. J. Kinyoun of analyses of the water of New York Bay. It is important because it shows that the bacillus of Asiatic cholera may live in salt water, and because Hoffman Island is believed to be infected by cholera germs:

"The cities and towns discharging their sewage into the New York Bay have an estimated population of three millions of people. In view of this fact, a chemical and biological examination of the bay water was undertaken for the purpose of determining its contents, and also to find how long it would support life of the different micro-organisms, more especially that of Asiatic cholera. Accordingly, specimens were obtained at different places, being collected in sterilized flasks. The first was obtained at the Narrows; the second alongside the steamship *Britannia* (lying in quarantine); the third at Hoffman's Island, and the fourth at Swinburne Island. These different specimens were collected in thirty minutes, and just at incoming tide.

"Chemical examination of one liter:

Narrows:

Chloride of potash and soda	20.8 grammes.
Carbonates	A trace.
Iodine	A trace.
Free ammonia	A trace.
Albuminoid ammonia	158 grammes.

Steamship *Britannia:*

Chloride of potash and soda	20.82 grammes.
Carbonates	A trace.
Iodine	A trace.
Free ammonia	A trace.
Albuminoid ammonia	158 grammes.

Hoffman's Island:

Chloride of potash and soda	21.64 grammes.
Carbonates	A trace.
Iodine	A trace.
Free ammonia	A trace.
Albuminoid ammonia	158 grammes.

Swinburne Island:

Chloride of potash and soda	21.814 grammes.
Carbonates	A trace.
Iodine	A trace.
Free ammonia	A trace.
Albuminoid ammonia	158 grammes.

Reaction was slightly alkaline.

"Plate cultivations were made from each of the different specimens, and at the end of five days had developed colonies of bacteria. Examination showing the number of micro-organisms:

Narrows	4,500 to cubic centimeter.
Britannia anchorage	10,200 to cubic centimeter.
Hoffman's Island	9,600 to cubic centimeter.
Swinburne Island	11,700 to cubic centimeter.

"The micro-organisms found in each were several varieties of micrococci and one of a large bacillus. These were transferred to cultivation tubes for further observation. On November 12th test tubes partly filled with sea-water were thoroughly sterilized, and inoculated in the usual manner with pure cultivations of the spirilla of Asiatic cholera, and also of Finkler and Prior. Cultivation tubes were inoculated from the water from day to day for the purpose of determining the longevity of the growths. During the first five days the water seemed to exert a slight inhibitory influence over their development. It was further observed that until January 20th, a period of sixty-nine days, the characteristic growth of the spirillum of cholera Asiatica could be produced in peptone gelatine. That of Finkler and Prior has a yet longer lease of life.

"Examinations made from time to time, both by the plate method and direct staining, show conclusively that these spirilla have not only been kept alive, but have also greatly increased in numbers.

"After closely studying the currents of the upper bay, I am led to believe that if dejecta from cholera patients should be thrown into the lower bay, cholera could gain a foothold on the contiguous shores, where every condition favorable to its development and propagation sometimes exist.—*Sanitary News.*

HYGIENE IN LARGE CITIES—COMPARISON OF THE SANITARY CONDITIONS OF POPULOUS TOWNS.—In a recent number of the *Revue d'Hygiene*, Dr. Jacques Bertillon, the chief of the Bureau of

Statistics of the city of Paris, publishes a memoir on the comparative sanitary condition of large cities in 1886, some features of which may be of interest to many readers. In this paper he gives the proportion of deaths per 100,000 of living population for each of certain preventable diseases The proportion of deaths per 100,000 of population reported as caused by typhoid fever during the year 1886 was: For Paris, 46; Marseilles, 108; Bordeaux, 60; Lyons, 40; Nancy, 65; Toulouse, 118; Besancon, 205. These are high figures as compared with those for the cities of other countries, as, for example: London, 17; Edinburgh, 15; Liverpool, 34; Manchester, 33; Berlin, 16; Dresden, 18; Leipzig, 11; Vienna, 11; Brussels, 29; Amsterdam, 16; Copenhagen, 13. A few large cities have, however, suffered greatly from this disease, *e. g.*, Saragossa, 128; St. Petersburg, 113; Milan, 71; Philadelphia, 65; Baltimore, 46. The great outbreaks of small-pox during 1886 are shown by the following figures, giving numbers of deaths per 100,000, viz.: Marseilles, 573; Rheims, 110; Buda Pesth, 358; Saragossa, 221; Rome, 128; Milan, 64; Zurich, 106. In like manner, some of the figures for scarlet fever were: Paris, 18; Lyons, 13; Marseilles, 5; London, 17; Liverpool, 47; Leeds, 57; Glasgow, 68; Berlin, 21; Hanover, 285; Leipzig, 28; Munchen, 34; Buda Pesth, 127; Vienna, 16; Amsterdam, 6; Rome, 5; St. Petersburg, 93; Brooklyn, 51. For diphtheria, some of the figures were: Paris, 73; Marseilles, 163; Lyons, 38; London, 33; Liverpool, 21; Glasgow, 29; Edinburgh, 32; Berlin, 128; Dresden, 169; Hamburg, 123; Leipzig, 110; Munchen, 86; Nuremberg, 240; Buda Pesth, 128; Amsterdam, 74; Granada, 491; Rome, 52; St. Petersburg, 63; Brooklyn, 170; Philadelphia, 113. All the above diseases are liable to occur in epidemic form, and an outbreak in a particular city may make it appear very unhealthy for that year, although ordinarily its sanitary condition was good. It is different with another disease of which Dr. Bertillon gives the statistics, and for which the figures do not show such great differences. This is consumption, from which, in each 100,000 inhabitants, there died in Paris, 470; Marseilles, 448; Lyons, 444; London, 202; Glasgow, 278; Edinburgh, 193; Belfast, 472; Berlin, 334; Dresden, 387; Leipzig, 315; Munchen, 390; Nuremberg, 482; Buda Pesth, 708; Vienna, 664; Brussels, 315; Rome, 212; Brooklyn, 313; New Orleans, 382; Philadelphia, 296. In comparing these figures with those for the preceding year, we find that the changes have not been great, but are mostly for the better; that the French cities suffer most from typhoid, the English from scarlet fever, the Germans from diphtheria, and the Austrians from consumption.

NEW BOOKS AND PAMPHLETS.

THE LANGUAGE OF MEDICINE. A Manual Giving the Origin, Etymology, Pronunciation and Meaning of the Technical Terms Found in Medical Literature. By F. R. Campbell, A.M., M.D., Professor of Materia Medica and Therapeutics, Medical Department of Niagara University. New York: D. Appleton & Co. 1888.

The title of the book gives concisely its scope, and we don't know when we have had a new book on any subject to be as welcome as this one. The medical dictionaries are unsatisfactory at best; and just where we want precise information as to the nature, declension and exact form of a word, the above source too often fails us. Dr. Campbell has done a work which will be a great source of gratification to all those who have had the advantages of a classical education, but who, as he aptly remarks, "are unable to apply their knowledge of the classical languages in determining the etymology and meaning of ordinary medical words, partly because the classics are studied more from a literary than a philological point of view, but largely because the words most used in medical works seldom appear in Latin and Greek with which they are familiar." And if to this class it is welcome, how much more so should it be to that very large number in the profession who are forced to stumble through inexplicable paths and byways, to continually use terms of which they are consciously—in so far as we can be conscious of a negative state of mind—ignorant; who find it their greatest impediment to progress in medicine to be unable to find a compact statement of the Latin and Greek they need to know? The book is divided into four parts. The first considers the "Origin of the Language of Medicine;" the second, "The Latin Element in the Language of Medicine;" the third, "The Greek Element in the Language of Medicine;" and lastly, the fourth, considers "Elements Derived from the Modern Languages." There is given in the second part paradigms of each of the declensions with examples of words used in medicine belonging to such declensions and exercises. This will, we hope, assist some of our profession who are unquestionably fine practitioners, in not making an exhibition of their lack of such knowledge at the very time when it is needed—viz.: in writing prescriptions; and to still further advance this end, the author gives a chapter on the correct forms of many words and also their correct abbreviations. With such a book as this before the profession, we can reasonably expect our professional brethern, without being classical scholars, not to write Divid in pilulæ, or ℞ Hydrarg. Chlor. mite, or ℞ Ferri Ammon Citras, or any similar errors that we can find in nearly any medical book, pamphlet or magazine. The doctor has also conceived a happy idea in giving the correct pronunciation of words which are constantly by eminent teachers incorrectly pronounced. Apropos to this he says with great truth: "The majority of these have been collected in the class room; but many, very many, have been mispronounced by medical society orators and college professors who have persisted in propagating their orthoepical blunders through the medical profession *until one hesitates before pronouncing some words correctly for fear of being misunderstood*! (The italics and exclamation are our own.)

The book is, on the whole, a most desirable addition to every physician's library and will undoubtedly receive a welcome from all who really appreciate its object. We only regret that we have not time to go more into detail in regard to the book. The exercises will be a useful feature to those who use the book as their Latin grammar, and there are many, as we have pointed out, who will be only too glad to do so. In fact it might not inaptly have been styled " A Grammar of the Language of Medicine."

LECTURES ON DISEASES OF THE HEART. Delivered at the College of Physicians and Surgeons, N. Y., by Alonzo Clark, M.D., LL.D. New York: E. B. Treat, 771 Broadway. 1887.

This volume makes another one of the series entitled " Medical Classics." There is a melancholy interest that attaches itself to the work of a great and good man who has left this sphere of existence; and this interest is much greater when we know that the writer was for many years a teacher of medicine, and that his influence is widely spread over our country at large. The style is entirely that of a teacher, the language colloquial; but there is a vast fund of common sense and of practical knowledge from actual experience which makes the book a particularly worthy member of the series. Those to whom the book will be most acceptable, know too well the views of its author for us to discuss differences of opinion; and besides, it is hardly fair to debate a question with a dead man. In reviewing another volume of this series, we failed to call attention to the number of typographical errors, but the repetition of a similar fault in the present book leads us to make mention of this defect, a defect chargeable, it seems to us, either to careless or to incompetent proof-reading.

QUESTIONS AND ANSWERS ON THE ESSENTIALS OF PHYSIOLOGY. Prepared Especially for Students of Medicine. By H. A. Hare, B.S.C., M.D., (Univ. of Pa.), Demonstrator of Therapeutics and Instructor in Physical Diagnosis in the Medical Department, and Instructor in Physiology in the Biological Department of the University of Pennsylvania, etc. With Illustrations. Philadelphia: W. B. Saunders, 1888.

The author says: "A manual of this character is in no way intended to supplant any of the text books, but to contain, as its title declares, the essence of those physiological facts with which the average student must be familiar." Within these limits the book is conscientiously and carefully prepared, and will rank with other good "quiz compends." The noticeable feature of the book is the terseness with which the answers are given. As a matter of fact the book will be most useful as a review to a man who has carefully worked out in his own mind, and, with the aid of larger books, fairly mastered the subjects considered in physiology.

The book is the first of a series to be entitled "Saunder's Question Books."

THE MODERN TREATMENT OF PLEURISY AND PNEUMONIA. By G. M. Garland, M.D. Detroit, Mich.: Geo. S. Davis. 1888.

This is No. 7 of the "Physician's Leisure Library Series." The subjects treated are too important and too interesting not to bring the book into the hands of many practitioners. The author gives the latest results of modern investigations, without discussing at any length the opposition views to the pneumonia bacillus of Friedländer and the pneumonia coccus of Fraenkel, and quotes approvingly the translation of Weichselbaum's postulates on the subject. Calomel does not, we think, receive full justice. Poultices are recommended to be used only so long as pain is a symptom. Altogether the book is quite acceptable, and gives some excellent suggestions.

THE INFECTIOUS DISEASES. Volume First. By Karl Liebermeister. Translated by E. P. Hurd, M.D. Detroit, Mich.: Geo. S. Davis. 1888.

His first volume considers only intermittent and typhoid fever; indeed the book may be said to be almost entirely occupied with the latter. The treatment is the most interesting part of the book; and, as we should expect from a German author, cold baths and cold applications hold a prominent place, though the old-fashioned quinine again assumes its lost rôle. An appendix is added giving the treatment of typhoid fever in the New York, Boston and Montreal Hospitals.

OPERATIVE SURGERY ON THE CADAVER. By Jasper Jewett Garmony, A.M., M.D., F.R.C.S., Attending Surgeon Outdoor Department Bellevüe. New York: Appleton & Co. 1887.

Dr. Garmony has written a work which is well worthy of perusal on the part of students who are engaged in the study of operative surgery. We can safely affirm that it is "a guide to the manipulative procedures of the ordinary surgical operations," which will not lead them astray. The description of the various methods of operating are plain and concise. The work of the publishers needs nothing to be desired.

CHEMICAL ANALYSIS OF HEALTHY AND DISEASED URINE, QUALITATIVE AND QUANTITATIVE. By T. C. Meigs, Professor of Chemistry, Indiana University. Philadelphia: P. Blakiston & Co. Pp. 178. Price $2.00.

PHARMACY AND THERAPEUTICS.

PROGRESS IN THERAPEUTICS.—The *Lancet*, Dec. 31, 1887, in its report upon the Progress in Therapeutics during the year 1887, says: If we may judge from the writings of the past year, the chief result of therapeutics has been to gratify the taste, rather than cure the diseases of our patients. One most important fact is the free circulation of saccharine, brought about by manufacturing enterprise, which ever follows in the wake of physiological chemistry. Another important acquisition of the year has been the discovery that antipyrin and antifebrin are not only of value in reducing the temperature of fever, but also have the property of relieving many cases of nerve pain. Not one of the least important contributions to the study of antipyrin is that by Albert Robin, which recently appeared in the *Gazette Médicale*, No. 50. A great deal of attention has been given to the treatment of heart and lung disease. Strophanthus has had a more extensive trial in the treatment of heart disease, and very various opinions have been expressed as to its capacities for good; the general conclusion to be arrived at from an impartial study of what has been written must be that further experience is required before we can rightly appraise its value, if it has any, or before we can determine in which class of case it can produce the best effects. The treatment of lung diseases by the rectal gaseous medication has had a fair trial. It has failed to sustain the reputation with which it was launched upon the medical world, at least in regard to pulmonary phthisis; and though it may be good in some cases of bronchial disease, yet other methods of treatment are at least as efficacious. Injections of carbolic acid and of hyperosmic acid have been employed, apparently with considerable success, in cases of chronic muscular rheumatism, and that uncertain affection or affections to which the name of sciatica has been attached by clinicians. In the treatment of skin diseases, especially of a limited character, the method of employing a varnish so ably advocated by AUSPITZ has met with increasing favor from dermatologists and others. The chief feature of the method is to form an artificial film or cuticle. A solution of one part of purified gutta-percha in ten parts of chloroform is known as traumaticine; it forms a softer and thinner film than gelatine and collodion, and, besides causes neither tension nor pain. This matrix may be impregnated with chrysarobin in the treatment of psoriasis. The scales should be first removed by soap and water and the solution painted on the affected parts with a thin, short-cut pencil brush. Dermatine made of copal dissolved in turpentine is a new and valuable varnish. The value of this method is largely due to the circumstance that the atmosphere is entirely prevented from assisting at the development of the skin disease, and there cannot be the shadow of a doubt that our atmosphere possesses in its chemical, mechanical and bacterial impurities a great power for harm. Dr. Shoemaker contributed an article to our columns on "Rectal Alimentation and Medication in Diseases of the Skin." In cutaneous diseases suppositories are the most convenient form of medicating the system by the rectum, since they are more slowly absorbed than solutions; whilst the ease, cleanliness and safety of administration more than compensate for their slightly retarded action, according to this authority. The nasal treatment of whooping-cough by various substances of an antiseptic and anæsthetic kind is one which has found some favor with the profession in England. Of the value of cocaine in congested states of the nasal mucous membrane, everyone who has employed a strong solution has satisfied himself. The treatment of gallstones by the use of a decoction of a well-known fern—asplenium ceterach or coradilla—and also by very large doses of olive oil, is amongst the therapeutical singularities of the year; and there are grounds for believing that each of these remedies may be found of value. On the theory that asthma is due to spasm of the involuntary muscular tissue of the bronchial tubes, Dr. Fraser, of Edinburgh, tried the action of nitrite of amyl and other allied bodies. He watched the progress of the physical signs whilst these substances were operating in the system. Considerable success attended this treatment. The nitrite of amyl was given in solution, five minims in two drachms of water, or inhaled, ten minims on blotting paper at the bottom of a small glass tumbler The nitrite of ethyl—nitrous ether—acts well in ten-minim doses of a twenty-five per cent. alcoholic solution. Of the nitrite of sodium, ten minims of a ten per cent. solution, and of the nitro glycerine, five minims of a one per cent. solution, were employed. The use of the nitrites is well-known, but perhaps not so widely practiced as could be wished for the welfare of our patients. The treatment of cancer has not unnaturally been the subject of much writing in our columns, both from contributors and by ourselves. We must not despair of discovering a means for checking the growth of malignant diseases, and in the words of Sir. James Paget, "we might well be nearly content if we could find a medicine as efficient against cancer as mercury and quinine are against syphilis and ague, especially as the recurrences of these diseases are less, not more severe than the primary." Not one of the least valuable therapeutical attempts of the year is the treatment of the "Green Diarrhœa" of infancy by means of lactic and other acids, based presumedly on the belief that this complaint is due to the growth of a chromogenic bacillus. The uses of cocaine have become better understood, whilst its employment has been extended to every department of disease, but that it must not be recklessly employed is the lesson to be learned from a consideration of the serious symptoms to which its hypodermic injection occasionally gives rise.

Papers on the treatment of phthisis have appeared frequently in our columns, dealing with the subject from many points of view. We have already referred to the Bergeon method, but of far greater importance than it, are the contributions which we have published on the climatic and antiseptic modes of treatment. Morrhuol is another product which deserves some mention, for great expectations have been raised by its introduction into therapeutics as a substitute for cod-liver oil, possessing twenty-five times its weight of the crude medicament. We would draw particular attention to our articles, by a special correspondent, on the high Altitude Treatment of phthisis. Sparteine and nitro-glycerine have been found by Dr. Oscar Jennings to have the property of relieving the craving for morphia in morphinomania. The paper on the Treatment of Typhoid Fever by the cold wet pack and alcohol, from the pen of Dr. Curnow, was a valuable contribution to our pages at the commencement of the year. The method of employing fluid vaseline for hypodermic medication is coming into use in this country as on the Continent; it is contended that vaseline is absolutely harmless to the tissues, and may be employed in large doses without causing accidents, but the vaseline must be perfectly pure, which is shown by its not blackening with warm sulphuric acid. Various medicaments, such as eucalyptol, turpentine, iodoform, phenol, iodine and camphor, may be dissolved in the pure fluid vaseline and injected in the strength of one per cent. or so.

THE USES OF CREOLIN.—In reply to inquiries from numerous medical brethren as to the best methods of employing creolin in various classes of cases, Dr. Max Kortüm has published some additional account of his experience of this substance, the manufacturers of which are Messrs. W. Pearson & Co., of Hamburg. Solutions have at first a milky appearance, but if allowed to stand for any considerable time, become brownish, owing to the resinous principles and naphthaline salts separating out. For surgical purposes two solutions are employed—a 2 per cent. solution and a ½ per cent. solution. The stronger one is used for disinfecting the hands, the instruments, and the surface of the patient's body. This has no undesirable effect on the skin or on the instruments. The weak solution is employed for irrigating wounds, for saturating tampons, and for moistening dressings, etc. Creolin has a decided hæmostatic action, and yet even in strong solutions does not act as a caustic. It may, if very strong, cause smarting, but only temporarily. In a case where a pulmonary cavity communicated with the cavity of the pleura which had been opened for empyema, copious hæmorrhage occurring some days after the operation from the lung cavity, a plug soaked in a 2 per cent. solution of creolin was inserted and stopped the hæmorrhage at once, the only unpleasant effect produced, being that the sputa tasted of creolin. In cases of large burns and bedsores, permanent baths of creolin water have proved very successful. In the case of bedsores Dr. Max. Kortüm suspends the part affected in a pan containing a 5 per mille solution. In midwifery cases the vagina may be washed out with the ½ per cent. solution, before and after delivery. Where the perineum is ruptured, this solution has an excellent effect, when used to moisten compresses applied to the part. In a case of atony of the uterus post partum a plug soaked in a 2 per cent. solution proved very successful. Surgical dressings, gause and moss applications, can be moistened every day or two with the creolin solution. In addition to watery solutions, creolin may be prescribed combined with oil or cerate, or as a powder with boracic acid as a basis. Cotton wool is also impregnated with it. The 5 per cent. oil may be used for itch or pediculi. In gonorrhœa injections of a water solution of from 1 to 5 per 1000 are very effectual, and in vesical catarrh a 1 per 1000 solution may be injected with advantage. Both in this affection and in gonorrhœa creolin may also be given internally in pills containing from 1½ to 4½ grains each, three or four times a day.—*Lancet*, March 17.

MISCELLANEOUS.

THE TREATMENT OF CONJUNCTIVITIS.—Dr. Dudley S. Reynolds, in *Progress* for February, states: For centuries it was the custom to treat all acute inflammations of the conjunctiva by caustic applications, increasing the intensity of the application as the disease became more chronic; and in the very chronic cases to apply, as Mr. Dixon recommended, fuming nitric acid with a glass brush, to the lining of the everted lid. The purpose of this application was to destroy the hypertrophied papillæ. They are seldom absent in a case of chronic, purulent conjunctivitis, and nearly all chronic cases of purulent conjunctivitis were so treated. It had been, for more than half a century, the universal practise to treat this condition with solutions of nitrate of silver, varying in strength, from ten grains to the ounce, to a saturated solution, some preferring to use the solid stick; others, a mitigated form of it. Since we have learned something more of the etiology of these local inflammations, a more rational plan of treatment has been introduced. No one now thinks of making so severe an application, as would tend to destroy either hypertrophied papillæ, or even the life of a microbe, upon the presence of which purulent conjunctivitis depends. On the contrary, the object now sought is the most frequent and thorough clearing away of the infected matter, so as to dislodge the microbes before they have had time to colonize, on the one hand; and to make such applications as will thoroughly sterilize the juices upon the surface of the membrane, on the other; taking care always to avoid making any application which shall add in the least degree to the irritation already present. It is the practise now to apply soothing agents; and, whilst sterilizing the juices and fluids on the surface of the affected membrane, at the same time soothe the irritated exposed nerve-terminations. To Dr. Henry W. Williams, of Boston, Mass., the greatest credit is due for bringing about this great reform in the treatment of local inflammation of the conjunctiva, although he did not stop to consider the *modus operandi*. In the charitable institutions of Boston, Dr. Williams instituted experiments to determine the relative virtues of nitrate of silver, sulphate of copper, and sulphate of zinc; and, on the other hand, such agents as the borate of sodium and the chloride of sodium. He soon demonstrated the superior value, in therapeutical effects, of the borax and chloride of sodium over all other applications with which he experimented. He has been roundly abused for his pains; but, thanks to the growth of independent experimental inquiry, his judgment is at last vindicated, and he becomes the veritable apostle of a new creed, not to say a benefactor of the human race.

RESECTION OF INTESTINE; RECOVERY.—A woman, aged thirty-three years, was received into Nothnagel's wards in January, 1887, with symptoms of intestinal obstruction. Increase in the severity of the symptoms (severe pain, meteorism, ileus) led to her removal to Billroth's wards in February, when Dr. Salzer, Jr., performed the operation for artificial anus, opening the cæcum. All the dangerous symptoms ceased, and perfect healing of the wound took place. In May the patient could pass about half her fæces per rectum, and at her request, Billroth closed the artificial anus. In three weeks the wound had healed, and the woman had regular passages for three weeks more, when the old symptoms reappeared. In July, Dr. von Hacker performed laparotomy. A small tumor was found in the sigmoid flexure, and a part of that, with a wedge-shaped section of mesentery containing enlarged gland, was removed. Half the circumference of the intestinal wound was united with Wölfler's sutures; internal and external continuous sutures of the mucous membrane, an outer intestinal suture, and several Lembert's sutures were also applied. The lumen was at once found restored, and healing of the wound progressed rapidly. Four months after the last operation the woman was quite well. The tumor was a cylinder-celled epithelioma. The lumen of the intestine was so reduced that it scarcely afforded passage of a match-stick through it.

Billroth explained the changes in the course of the disease by assuming that the tumor broke down and was expelled piece-meal. Contraction of the connective tissue in the base followed, similar to that seen in carcinoma of the œsophagus.—*Deutsche Med. Wochenschrift*, November 24, 1887.

TREATMENT OF PLACENTA PRÆVIA.—Dr. John Morris, of Baltimore, submits the following propositions: 1. No expectant plan is justifiable in cases of placenta prævia. The uterus must be emptied as soon as possible after the discovery of the trouble, no matter what the stage of pregnancy may be. A halting, hesitating practice means danger both to mother and child. 2. That the life of the child must not be considered in the treatment of the case. 3. That the manner of emptying the uterus must be left to the individual judgment of the medical man in attendance. 4. That in cases of central adherence of placenta, the safest and best practice is to separate the placenta entirely. 5. That in cases where the placenta is adherent in the latero-cervical zone of the uterus, partial detachment may be sufficient, but if the hæmorrhage is not arrested, the whole mass should be removed, and means of delivery at once instituted. 6. That the colpeurynter is the only tampon that can be safely used in these cases—that sponges, silk handkerchiefs, and other forms of tampon are nasty, filthy, and septic, and should never be employed. 7. That the bimanual treatment, whenever possible, is the best and speediest form of delivery. 8. That chloroform must be administered in all cases in which manual interference is necessary.—*Practice.*

Apropos of Champagne.—The increasing tendency of refined people to use champagne wines, of which "Mumms' Extra Dry" is now the acknowledged model, and its general adoption by the medical profession, gives additional interest to the announcement that immense quantities of their superior vintage of 1884 is reserved for this country. Connoisseurs, surprised and delighted with its delicate bouquet, pronounce it the finest vintage for many years, and after careful analysis of the prominent brands, Dr. R. Ogden Doremus unequivocally says: "It is the model of purity; contains in a marked degree less alcohol than the other prominent brands, and is the most wholesome of the champagnes." Its medical value consists in the happy combination of fruit acids with sugar and carbonic acid and a minimum of alcohol, enabling it to act promptly, not only as a food, but a gentle stimulant in cases of weak digestion, nervous irritability, weary brain and tired muscles. No one that tastes the new vintage wonders at its popularity.

Tarnier's Couveuse.—During the last two or three years Tarnier has, by means of his couveuse, succeeded in rearing premature children who formerly could not have survived. The couveuse is a form of incubator with a glass lid, through which the child may be viewed. The two great indications in rearing premature children are to maintain heat and to feed. The first indication is secured by the couveuse in which the child is kept, except when it is moved to be fed or washed. The second thing is the feeding, and this he does by means of a stomach-pump. It is in the form of a urethral catheter in red caoutchouc. To one end of this is attached a small artificial nipple. With this prepared the infant is laid on the operator's knees, the head slightly raised; the catheter, moistened, is introduced to the root of the tongue, when the infant by instinctive movements carries it down by the œsophagus, which it traverses very easily. When it has gone a length of about six inches, including mouth and œsophagus, the end is in the stomach. Then the liquid (asses' milk or other) is poured into the little funnel, and by gravitation runs into the stomach. In a few seconds, the catheter is withdrawn; but this must be done rapidly, for if done slowly the liquid would follow the catheter and be rejected by regurgitation. Two and a half drachms of milk every hour, is about enough for a very small child. By these means, Tarnier appears to have succeeded in carrying vitality backward to a period hitherto unexampled. Thus infants of only six months, or a little more, have been reared, and "the epoch of viability," from a clinical point of view is now confounded with the epoch of legal viability. He calls this method "gavage."—*British Med. Journal*, Dec. 31, 1887.

MEDICAL APHORISMS.—A correspondent signing himself "Artz," sends to the *Canada Lancet* the following professional aphorisms of Amédée Latour:

1. Life is short, patients fastidious, and the brethren deceptive. 2. Practice is a field of which tact is the manure. 3. Patients are comparable to flannel—neither can be quitted without danger. 4. The physician who absents himself runs the same risk as the lover who leaves his mistress; he is pretty sure to find himself supplanted. 5. Would you rid yourself of a tiresome patient, present your bill. 6. The patient who pays his attendant is but exacting; he who does not is a despot. 7. The physician who depends on the gratitude of his patient for his fee is like the traveller who waited on the bank of a river until it finished flowing, so that he might cross to the other side. 8. Modesty, simplicity, truthfulness!—cleansing virtues, everywhere but at the bedside; there simplicity is construed as *hesitation*, modesty as *want of confidence*, truth as *impoliteness*. 9. To keep within the limits of a dignified assurance without falling into the ridiculous vauntings of the boaster, constitutes the supreme talent of the physician. 10. Remember always to appear to be doing something—above all, when you are doing nothing. 11. With equal, and even inferior, talent, the cleanly and genteely-dressed physician has a great advantage over the untidy one.

HÆMORRHAGIC CONDITIONS OF THE UTERUS.—Dr. C. D. Palmer in the *Amer. Gyn. Soc.*—Uterine hæmorrhage can often be treated advantageously by means of drugs. Ergot is especially useful is cases of chronic hyperæmia and subinvolution of the uterus, attended by menorrhagia, where the organ is soft and relaxed and of interstitial and submucus fibroids. Hæmorrhages due to fungous endometritis, ovarian and parametric inflammation, are not favorably affected. Digitalis is useful in uterine hæmorrhage due to cardiac disease. Cannabis indica is an uncertain drug, acting rather upon the nervous system. Bromide of potassium is a sedative in ovarian irritation and congestion, and thus is useful in certain forms of menorrhagia, as well as in the treatment of hæmorrhage from subacute and chronic pelvic peritonitis.

Arsenic acts by improving the general condition, and hence is of value in the menorrhagia of young women and at the climacteric, also in malarial conditions. He gave Fowler's solution in three-minim doses. Active cathartics often exercise a favorable effect in checking uterine hæmorrhage, especially if there is evidence of obstruction to the circulation from habitual constipation. In general, the administration of iron during the intermenstrual period is not advisable, unless the patient is remarkably anæmic.

Hydrastis Canadensis has been highly recommended as a hæmostatic in uterine hæmorrhage from any cause. Garrigues has obtained good results with *gossyptium herbaceum*, especially in cases of fibroid tumor. Hamemelis is inferior to ergot for the relief of sudden hæmorrhage, but is useful in the treatment of long-continued flux, where the hæmorrhage being of a passive character, the uterus is soft and flabby.

Dr. Fordyce Barker said that he had found arsenic to be a valuable drug in the treatment of excessive flow at the time of the menopause, where vasomotor irritability was especially prominent. It exerts a direct influence upon anæmia of vasomotor origin. He is accustomed in treating such cases, to administer full doses of the bromides during the time immediately preceding the flow, giving arsenic during the intermenstrual period.

Hydrastic Canadensis, combined with an equal part of the fluid extract of hamemelis, is of most value if given after the flow has begun. If there is marked vasomotor irritability he adds five or six minims of the tincture of nux vomica. Viburnum is a useful drug in menorrhagia and metrorrhagia, where the hæmorrhage is of a passive character, especially in early pregnancy, and in threatening abortion it is a valuable uterine sedative.

He agreed as to the importance of relieving the portal circulation, which was accomplished by the use of mercury and saline laxatives. In cases where the uterus was large and flabby, iron and opium should be administered during the intervals between periods.

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MEDICAL NEWS AND NOTES.

ACADEMY OF MEDICINE, PARIS.—At its last meeting the Academy concluded its labors on the "Public Means for Preventing the Spread of Syphilis." That body unanimously voted in favor of that portion of the report of its Commission calling for the total abolition of disciplinary measures against the infected, the adoption of the best means of stamping out clandestine prostitution by warning young soldiers against its attendant dangers, and by combining the efforts of the civil authorities with those of the army medical officers, with a view to the suppression of such dangers both in towns and in proximity to camps. Finally, the Academy adopted the following resolution in respect to the navy: "Crews should be subjected to sanitary inspection prior to the ship putting into port; men found to be infected, on inspection, after a voyage of sufficient length, should not be allowed to land; suspected houses and persons leading a debauched life in naval ports, or ports of call, to be kept under medical surveillance; and the municipal authorities of such ports should be required to keep all persons suffering from disease in hospital until thoroughly cured of all infectious symptoms." The discussion closed; M. Herard, president, congratulated the Academy for having initiated the agitation on this important question, agitation which is likely to result beneficially for the public health, and which has aroused the attention of the public powers, and thereby paved the way for such reforms as may be deemed necessary.

SYPHILITIC MYOSITIS.—Newmann has called attention to a sequel of syphilis not generally recognized. It consists in great pain in the anal region, with tenesmus, due to a specific myositis of the external sphincter, and is not an infrequent symptom after the cure of lesions in the mucous membrane of the rectum. It is commoner in women than men, no doubt in consequence of the greater frequency of papules and rhagades in the female sex. The treatment consists in local and general anti-syphilitic measures, and, if necessary, division of the sphincter.—*Deutsche Med. Wochenschrift.*

IT is said that a distinguished doctor in Stettin has received a letter from Sir Morell Mackenzie, from which the following is an extract: "It would be impossible for me to correct all the innumerable falsehoods that circulate about me, or to reply to all the letters I receive; but as you have had the kindness to take up my defense, I must make an exception of you and inform you that what you have heard respecting my conduct in the matter of the tracheotomy is entirely false. During the operation I held the pulse of the Crown Prince, and I believe I was the first colleague to congratulate Dr. Bramann on the success of his operation. As the operation was performed at my urgent request, it is evident that I could not have made a remark calculated to diminish its importance."

A CHEAP BAROMETER.—An exchange makes this original suggestion: Put a leech into a glass bowl, rather wide than otherwise, cover over the top with a piece of cambric, and the barometer is ready for use. If the leech remains curled up at the bottom of the bowl, it indicates fine weather; if it lies uncurled at the bottom, change in the weather; if the leech floats on the surface of the water, bad weather; if it is very agitated and restless, strong winds; if with rough motions and convulsive action, great storms may be looked for. It suffices to renew the water every twelve or fifteen days to keep this barometer in perfect order.

AT a recent meeting of the French Academy, M. Perret of Bordeaux, gave an account of his researches on the modifications undergone by the spinal marrow, bulb and pneumogastric in animals under the influence of the rabic virus. First of all, an acceleration of the respiratory movements takes place, which is due to the reflex action of the marrow and bulb on the pneumogastric nerve. But this nerve, which is the first to feel the counter-effect of virulence, is not directly inoculable, and the bulb becomes virulent five days after inoculation. The evolution of the manifestations of the rabic poison, as regards the respiratory and circulatory phenomena, is well ascertained. The initial excitation is gradually followed by subsidence to such a point as to produce dyspnœa, asphyxia and paralysis of the heart.

VARIATIONS OF VITAL CAPACITY.—Dr. Theodoroff presents, in the form of a graduation thesis, in St. Petersburg, a laborious set of observations on the influence of the time of day upon the vital capacity of the lungs, and on the force of inspiration and expiration. His material consisted of ninety-six healthy men from Livadia, whom he examined twice a day for several consecutive days, and of fifteen individuals belonging to a different locality, whom he examined nine times a day for some time. The instruments used were Hutchinson's spirometer and Waldenburg's pneumatometer. He found that the vital capacity increases from morning till evening, decreasing again during the night. After each meal, too, there is a special increase, followed by a slight decrease; the vital capacity being at its highest shortly after dinner, and at its lowest after getting up in the morning. Thus, from a diagram giving average results, we find the numbers as follows (in cubic centimetres): 8 A.M., 3,550; 9 A.M. (after morning tea), 3,615; 11 A.M., 3,605; 12 noon (after breakfast), 3,623; 5 P.M., 3,618; 6 P.M. (after dinner), 3,631; 9 P.M., 3,610; 10 P.M. (after evening tea), 3,615. The force of inspiration and expiration follows nearly the same law, the main exception being that evening tea has no effect on the former, and only a slight one on the latter.

OF the two latest deaths from rabies, among patients who had submitted to Pasteur's treatment, in Paris, one was a boy aged four, who was bitten by a mad dog on December 6th last, and was under treatment at Pasteur's Institute from the 12th of December, 1887, until the 7th of January, this year. He died of hydrophobia on January 22d. The second case was that of a woman aged fifty-two. She was bitten on January 23d of the present year, and was placed under Pasteur's treatment on January 29th. She died on February 17th of hydrophobia.

PUZZLED.—An elderly lady, who was handling a set of false teeth in a dentist's office, asked: "Can a body eat with these things?" "My dear madam," replied the consultant, "mastication can be performed with a facility almost equal to nature itself." "Yes, I know all that," answered the old lady, "but can a body *eat* with them?"—*Dental Jairus.*

VALUE OF REST.—There is no better preventive of nervous exhaustion than regular, unhurried muscular exercise. If we could moderate our hurry, lessen our worry, and increase our open-air exercise, a large proportion of nervous diseases would be abolished. For those who cannot get a sufficient holiday, the best substitute is an occasional day in bed. Many whose nerves are constantly strained in their daily vocation, have discovered this for themselves. A Spanish merchant in Barcelona told his medical man that he always went to bed for two or three days, whenever he could be spared from his business, and he laughed at those who spent their holidays on toilsome mountains.

One of the hardest-working women in England, who has for many years conducted a large wholesale business, retains excellent nerves at an advanced age, owing, it is believed, to the habit of taking one day a week in bed. If we cannot avoid frequent agitation, we ought, if possible, to give the nervous system time to recover itself between the shocks. Even an hour's seclusion after lunch will deprive a hurried anxious day of much of its injury. The nerves can often be overcome by stratagem when they refuse to be controlled by strength of will.

ORCHITIS AND EPIDIDYMITIS.—Dr. Lowndes (*Lancet*) treats the above according to the method of Fourneaux Jordan, which consists in painting the testicle with a solution of nitrate of silver, two drachms to the ounce; at the same time strict rest is enforced. The pain is soon subdued, and the testicle returns to its normal size in a few days. Sometimes a second painting is necessary. Dr. Lowndes has treated 269 cases in this manner.—*New England Medical Monthly.*

PHARMACY IN THE SIXTEENTH CENTURY.—In the sixteenth century, in England, Boleyn (Queen Anne Boleyn's cousin), a prominent apothecary, laid down the following rules for the practice of pharmacy: The apothecary must first serve God, forsee the end, be cleanly and pity the poor. His place of dwelling and shop must be cleanly to please the senses withal. His garden must be at hand with plenty of herbs, seeds and roots. He must read Dioscorides. He must have his mortars, stills, pots, filters, glasses, boxes clean and sweet. He must have two places in his shop, one most clean for physic, and the base place for chirurgic stuff. He is neither to decrease nor diminish the physician's prescription. He is neither to buy nor sell rotten drugs. He must be able to open well a vein, for to help pleurisy. He is to meddle only in his vocation, and to remember that his office is to be only the physician's cook.

THE EXACT DETERMINATION OF UREA.—MM. Cazeneuve and Hugouneng have devised a new method for the exact estimation of urea in urine. The apparatus consists of an oil-bath, which is heated by a gas-jet, and maintained at a constant temperature by means of a thermostat. In the bath two bronze tubes are immersed, closed at one end and tested to a pressure of sixty atmospheres. These tubes are coated interiorly with platinum, and fitted with a screw cap, furnished with a ring of lead, to insure their perfect closing when screwed down. Twenty or thirty centimetres of urine are neutralized and decolorized by agitation with unwashed animal charcoal; ten cubic centimetres, diluted with about twenty cubic centimetres of distilled water, are poured into one of the tubes, the top strongly screwed down, and the whole raised to 180° C.

At the end of half an hour it is allowed to cool, the liquid is washed out and titrated with sulphuric acid solution (40 grains per litre), using phenolphthalein as an indicator. The number of cubic centimetres used, multiplied by three, gives in grammes the proportion of urea in one litre of urine. The process depends, of course, on the conversion of urea into carbonate of ammonia, in the presence of an excess of water, at a sufficiently high temperature. The authors have found that, with the exception of sugar, none of the various constituents of urine affects the result.

EDITORIALS.

THE AMERICAN MEDICAL ASSOCIATION.—(Thirty-ninth Annual Meeting, held in Cincinnati on Tuesday, Wednesday, Thursday and Friday, May 8, 9, 10 and 11, 1888.)—The meeting was called to order by Dr. W. W. Dawson, Drs. Davis, Brodie, Richardson and Sayre being on the platform. Addresses of welcome were made by the Mayor and by Dr. C. G. Comegys. Dr. Comegys spoke of the early medical history of Ohio, and gave sketches of Dr. Daniel Drake and Dr. Benjamin Dudley, of the Transylvania University, and of the developments of medical education in Cincinnati.

The subject chosen by the president, Dr. A. Y. P. Garnett, of Washington, D. C., was "The Mission of the American Medical Association."

Dr. Garnett opened his address by saying he was especially moved to the selection of this subject at this time by the fact that at no period since the formation of the Association have its enemies been so bold, so reckless and so unscrupulous in their efforts to destroy its power and influence with the medical men of the country. The paternal relations held by this organization to the entire medical profession imposes upon it duties and responsibilities of the gravest character. In the eyes of the world it is the custodian of all that pertains to the preservation and advancement of medicine, as well as to the elevation of the profession.

Dr. Garnett's views on the subject of medical education are in most part those of the best men in the profession. He referred very eloquently to the fact that there are many men graduated from medical colleges half prepared, and totally unfitted to take upon them the grave responsibilities of a physician. He believes the four year system to be a good one; there is so much to be learned of the ailments of suffering humanity that a student cannot acquire the knowledge necessary in the short term of two years. Unfortunately, there are too many of our fellow brethren who think their life of study has ended, instead of being just begun, when they take leave of their Alma Mater. Many a man has found himself in a profession that he would love to grace, but cannot, because he is lacking the necessary foundation of a good collegiate education, and his life is one continual struggle.

With the present number of colleges and cutting of fees we cannot have the men of education and reputation that we should have for teachers. Let there be, then, fewer colleges, and these of a better grade. Dr. Garnett makes these propositions: That a committee consisting of five medical men be appointed for each State, Territory and the District of Columbia, to be known as the "Legislative Committee." Three of these shall not be connected officially with any medical college or school. Their duty shall be: First,—That each of said committee, or a majority of them, shall attend the session of their Legislature from time to time, as their duty may require, for the purpose of using all honorable means for the reduction of the number of the medical schools in the United States, and a consequent diminution of the number of medical graduates. Urging that a clause requiring a term of four years shall be in every charter granted to a medical school, and that no student shall be admitted unless he passes a satisfactory examination, both written and oral, in the ordinary academic branches. Any school failing to show fifty matriculates, for three successive years, forfeits its charter and shall be abolished.

Secondly,—That they shall strive to have appointed a board of examiners, consisting of seven members, all medical men without any connection with any medical school. This board shall examine all applicants for license to practise the art and science of medicine and surgery in their respective districts, and they alone shall grant license to such applicants proving themselves prepared. This committee to nominate to the Governor of said States, Territories, and the District of Columbia, seven competent and learned men to compose said board.

Any one person who shall be detected in practising any branch of the healing art without license granted by said Board, shall be subject to such penalties as the law may provide.

Thirdly,—The chairman of said committee of five, shall report at each annual meeting of the association a full statement of what has been accomplished by each.

Proposition second urges the Faculties of the different medical schools to meet in convention at some convenient place for the purpose of consulting and adopting some general and uniform system of medical education, more comprehensive and rigid in its requirements, and more in accord with spirit of the age and advanced progress of medical science; suggesting a four year term of study, and requirements of a preliminary education, including some knowledge of the classics. Any college or school refusing to enter into such arrangement as might be decided upon, by said convention, should be excluded from all connection with the American Association and its Alumni, and not recognized as members of the regular profession.

Certainly the speaker was correct in acknowledging some of the suggestions to be radical and seemingly impracticable, but that much good would be gained by the keeping constantly in view a higher aim and broader scope of medical education, none can deny.

The Boards of Examiners will almost accomplish this. They will raise the standard of many schools, and students will strive to make a better standing if they have the prospect of a rigid examination staring them in the face.

Dr. Garnett spoke warmly of the success of the Ninth International Congress.

The address on Surgery, by Dr. E. M. Moore, of Rochester, N. Y., and Public Medicine, by Dr. H. S. Walcott, Chairman Board of Health, of Massachusetts, are both interesting and instructive, and we regret that want of space and time necessitates only this passing notice.

NAUPATHIA.—A paper was read before the French Academy of Sciences by M. Ossian-Bonnet, on the etiology and treatment of *naupathia* (seasickness). The author claims that the disease is purely of nervous origin; he is strongly inclined to discard the various mechanical theories that have been offered as explanations for it. He dismisses summarily succussion of the cerebral fluid, shock to the pneumogastric, movements of the viscera, etc. M. Ossian-Bonnet regards vertigo as the characteristic symptom of naupathia; the nausea is the result only of digestive disturbances. He recalls the well recognized fact that the motion of a ship often causes only vertigo. He mentions also the fact that some persons are affected only by the lateral motion of the ship, and others by the forward or pitching movement. He recalls to us that vertigo may be produced by the apparent instability of objects, known to be stable, as experience in swinging or on merry-go-rounds.

Assuming that the affection is purely "nervous," and that the nausea is the result of digestive derangement, M. Ossian-Bonnet arranged a rational method of treatment and took a sea trip from Havre to Buenos Ayres to test the correctness of his assumption.

A few of his suggestions are remarkably trite; he advises a saline laxative every morning for several days preceding the embarkment. If an attack of nausea come on, he advises a glass of water to be drunk after each attack. He suggests that the latter measure ensures *lavage* of the stomach, and renders the vomiting less painful. Every one who has ever been "down" to the sea in a ship can endorse this little remarkable statement.

The writer, having observed the influence that antipyrine possesses in diminishing the excito-motor power of the spinal cord, concluded to try this drug in naupathia.

It is said that the remedy did not fail in a single case. It is gratifying to know that seasickness is no longer an inevitable ill for some, and that "sea-legs" may be got through antipyrine.

Among the many causes that have been given for seasickness, this is perhaps the most acceptable, seeing that in using the word *nervous*, the author has left great room for speculation and pins us down to no succinct article of belief. Moreover, our therapeutics would be broad, for any agent that acted as a nervine would à priori be permissible in the treatment. Already a great variety of medicaments have been suggested for seasickness, and each one has been hailed as a possible specific. The bromides, morphine, atropine and others saw their day, and went down finally to a rational insignificance. When cocaine was isolated and its local anæsthetic effect demonstrated, it was supposed that it possibly contained the balm for this troublesome ailment.

It was tried and benefit was said to have been derived from it in many instances, but reason has also relegated it to its proper sphere.

The *British Medical Journal* recently contained a communication from Dr. J. J. Seiser, in which a mechanical explanation was suggested for seasickness, and a mechanical remedy was given. This observer had often remarked that there was an impulse to breathe irregularly on the part of any one affected by the motion of a ship. This disturbance of system in respiration would naturally cause temporary carbonic acid poisoning of the brain (presumably in the medulla). The symptoms of vertigo and nausea might be explained on this assumption.

The natural inference was, that it persons on ship-board could be got to breathe rhythmically, these two symptoms might be eliminated, by virtue of the elimination of the carbonic acid poisoning. This observer also took a sea trip, and put his theory to test. Forced rhythmical breathing was found to be very satisfactory as a treatment; this observation was corroborated by two other physicians who were associated with Dr. Seiser in the experiments.

No very long time has elapsed since some one suggested that seasickness was the result of an irritation seated in the semi-circular canals. This hypothesis took so firm a hold on the minds of those that promulgated and favored it, that they went about on ship-board, painting vesicating medicaments on the mastoid region of unfortunates who were already subject to one of the most disagreeable ills that flesh is heir to. Whether this treatment was beneficial or not, it soon fell into disuse, for, probably, there was a question in the minds of the patients as to which was worse, blisters behind the ears or naupathia. Possibly some had ultimately to endure both.

This theory is apparently rational, but the therapeutics which fit the theory perfectly are difficult to carry out, if not impracticable. Imagine a sea-sick person endeavoring to breathe at the rate of twenty respirations per minute. Their minds would certainly be employed and their attention directed away from their trouble—we doubt very much whether any one who is affected by seasickness would be able to breathe rythmically when he experiences the sensation as if the whole of creation were dropping away from his feet. Every one is familiar with the relief given by holding the breath in the descent of a swing. The desire to hold the breath in the downward swoop of a ship has often been noticed. If a man were to desist from breathing during an entire sea trip he would probably not experience naupathia at all. Huxley has remarked that the "tendency of physico-chemical science is clearly towards the reduction of the problems of the world of the infinitely little, as it already has reduced those of the infinitely great world, to questions of mechanics."

The direct causes of all things are perhaps reducible to some form of mechanical force. Disease, like evil, is possibly the result of force misdirected, inadequate or excessive, for a given object; or a combination of the first with either of the latter two. This seems to us clearly to be the case in functional diseases.

Naupathia is certainly not an organic disease; it must be a functional one. There should, then, be a mechanical cause for it. All intelligent therapeutics are based upon the recognition of cause. The original cause of naupathia is certainly the movement of the ship. This movement disturbs the system in such a way that a series of symptoms and signs are produced. To prevent the movement would be the first measure suggested by primitive reason. Such a thing is impracticable. The remaining therapeutic recourse is to prevent the secondary cause, which calls forth the symptoms of the affection. Whatever be the cause it comes through the nervous system and the symptoms are all expressed through it. To diminish the sensitiveness of the nervous system to the cause is surely a rational measure. If an agent can be found to do this without deleterious or unpleasant after-effects, it should be given a fair trial.

The suggestion of antipyrine by M. Ossian-Bonnet is at least something new.

In most cases one dose of twenty grains was sufficient, but in some it was necessary to repeat the dose or to give only in larger quantities. Let it be given a fair trial.

DR. JNO. E. WEEKS read a paper before the New York Academy of Medicine on bacteriological investigation of the antiseptics used in ophthalmology, in which was given the result of 1,200 experiments. His object was to determine the necessity of using antiseptics in ophthalmology, the relative antiseptic qualities of the various topical remedies employed in ophthalmology, to ascertain the instant or non-instant effect of these agents on the conjunctiva, and cut surfaces of the soft parts, and to settle the best method of sterilizing instruments used in ophthalmic surgery.

Although referring by title to a special department, the article has dealt with matters which are interesting to every one, and developed facts that it may be useful to know in all departments of surgery.

In order to discover whether it was necessary to use antiseptics in the surgery of the eye, the author made microscopical examinations of cultivations of bacteria planted in nutrient aqua, and obtained from the skin, brows, and conjunctival sacs of normal eyes; also from cases of mild and severe conjunctivitis, dacryo-cystitis, eczema, pustules on the face, phlyctenulæ, etc. A variety of micro-organisms were found on the epithelial scales of the skin surrounding the eyes, not infrequently pyogenic germs. The same was found by planting the brows and lashes in *aqua* preparations.

The free surfaces of the lids seen were found to be favorite lurking places for a great variety of germs, probably on account of the moisture and warmth of this location.

In making cultivations from the normal conjunctival sac, the eyes of 120 children were used. The staphylococcus pyogenes was found in three cases. This germ was found ten times in examining the conjunctival sac of sixty-five cataractous eyes. Of these ten cases, two had mild dacryo-cystitis; five had mild conjunctivitis.

Discarding the possibility of carrying infection by means of the fingers, instruments, etc., on the part of the surgeon, the statement of the above results shows conclusively that no conscientious surgeon, who believes in the germ theory of suppuration, can attack an eye without taking precautionary measures against infection. The relative values of the medicinal agents used as antiseptics were tested in the form of solutions, powders and salves.

Solutions of the various agents were made in sterilized water, and put in sterilized test tubes.

Sterilized platinum rods were dipped in an emulsion of the germs in sterilized water, and the rods immediately immersed in antiseptic solutions.

The staphylococcus pyogenes was used as the infecting material. The following shows the effect according to Dr. Weeks's experiment of the bichloride of mercury on the vitality of this germ:

A solution of 1 : 500 destroys vitality in exposures of 10 seconds.
" " " 1 : 1,000 " " " " " 45 "
" " " 1 : 2,000 " " " " " 1⅓ minutes.
" " " 1 : 4,000 " " " " " 2½ "
" " " 1 : 5,000 " " " " " 3 "
" " " 1 : 10,000 " " " " " 5 "
" " " 1 : 20,000 " " " " " 12–15 "

The author found that a solution of this agent, in the strength of 1 : 4,000 or 1 : 5,000, may be dropped into the conjunctival sac of most people without causing irritation.

The following statement of the antiseptic value of nitrate of silver will be surprising to most people:

A solution of 1 : 10 destroys vitality in exposures of 4 seconds.
" " " 1 : 50 " " " " " 8 "
" " " 1 : 100 " " " " " 12 "
" " " 1 : 500 " " " " " 1⅓ minutes.
" " " 1 : 1,000 " " " " " 4 "

This explains the great value of nitrate of silver in treatment of purulent affections of the conjunctiva and lids. Its instability, however, and its staining qualities unfit it for use as an antiseptic lotion. The antiseptic power of salicylic acid, permanganate of potash, and alcohol, as found by Dr. Weeks, are worthy of mention.

Salicylic acid.—1 : 600 destroys vitality in exposures of 1 minute.
" " 1 : 100 " " " " " 4–5 "

Considerable irritation is said to follow the introduction of this agent into the conjunctival sac.

Permanganate of potash:

A solution of 1 : 50 destroys vitality in exposures of 20 seconds.
" " " 1 : 100 " " " " " 1 minute.
" " " 1 : 200 " " " " " 5 minutes.
" " " 1 : 500 " " " " " 20 "

Absolute alcohol destroys vitality in exposures of 4 to 12 seconds; 90 per cent. alcohol in exposures of 20 to 30 seconds; 66 per cent. alcohol in exposures of 10 to 15 minutes. Solutions of carbolic acid as weak as 1 : 60 were found by Dr. Weeks to destroy vitality in 4 minutes; 1 : 40 destroyed vitality in ½ to 1 minute; 1 : 20 in ¼ of a minute.

Boric acid was found to possess no germicidal effect whatever. In a saturated solution (1 : 25), the staphylococcus pyogenes remained vital for 10 days.

A variety of other solutions were tested, whose effects are hardly worthy of mention.

Of oils, the oil of cade was found to destroy the vitality of the above germ in 5 minutes. Thymol and eucalyptol were found to evince no germicidal power in exposures of 24 hours.

Of various ointments, even the most powerful, the officinal mercurial did not show any effect on the vitality of the germ in 36 hours.

Of powders, calomel destroyed vitality in exposures of 3 minutes. Resorcin in 8 to 12 hours. Iodoform was found to *retard development* in 12 hours. Subnitrate of bismuth had no effect. Boric acid in powder failed to produce any effect whatsoever in exposures of 36 hours.

The author classes the sterilization of instruments under three heads: mechanical, chemical, thermal.

It was found that if instruments are smooth and not specifically infected beforehand, they may be rendered aseptic simply by friction and clean bits of linen. Bright, smooth instruments, taken at random from a case, were rubbed thoroughly with clean linen and introduced into sterilized nutrient gelatin. No development of germs occurred.

Whenever instruments were found to be rusty, this method of cleansing did not suffice. Smooth, bright instruments were dipped in solutions of pyogenic germs, washed apparently clean, and rubbed with bits of linen; they were then introduced into nutrient sterilized gelatin. Infection occurred in about one-third of these cases. In view even of these results, we do not think that any one could conscientiously lay aside the use of antisepsis for instruments.

With reference to chemical means for this purpose, carbolic acid and absolute alcohol alone are worthy of careful consideration.

The former is open to the objection that it dulls the fine edge of knives and scissors after half an hour's exposure. Moreover, it has an anæsthetic effect upon the skin of the fingers, evidently undesirable in operations about the eye at least. It has been stated in the foregoing that absolute alcohol was found to destroy the vitality of the staphylococcus pyogenes in exposures of 4 to 12 seconds; 90 per cent. alcohol in exposures of 20 to 30 seconds. Either of these two, and preferably the first, may be used as a means of chemical sterilization for eye instruments.

For the thermal disinfection of instruments, dry or moist heat may be used. Stremberg has shown that all micro-organisms are destroyed by being exposed to temperatures varying from 52° to 100° C. in ten minutes. This refers particularly to moist heat; if dry heat be used the temperature must be somewhat higher (150° C.). To pass instruments as delicate as cataract-knives through the flame of a Bunsen burner is not advisable, as the keen edge is taken off by oxidation.

It should be borne in mind that moist heat at the temperature of boiling water (212° F.), destroys all germs, but not *spores* of germs. Successive boilings alone will eliminate all infective material, by destroying the germs as they are developed from the spores. Now the best that antisepsis can do is, as nearly as possible, to prevent the deposit of germs, and in case of failure in this regard, to destroy those that are in active life. Any means which will destroy *spores* will gnaw away the cutting edge of sharp instruments.

It is well here not to "count chickens before they are hatched."

In order to make use of heat for the disinfection of instruments, it is necessary either to dip them in boiling water or to have constructed some receptacle in which they may be conviently placed, where they may be bathed in moisture that is at the temperature of 212° F.

In order to use dry heat, it would be necessary to have instruments with metal handles; this would obviate injury to the handle, but the instruments would have to be allowed to cool before they could be used. Apparently this method is not entirely practicable.

It seems to us that the best method of gaining the desired end is to first wash the instruments in water that has been boiled; to dry them with antiseptic cotton or gauze and to allow them to remain during the operation in absolute alcohol.

At the present date Parras's solution* is very popular among ophthalmologists for the purpose of irrigation.

On account of the alcohol, this solution is somewhat irritating to the conjunctiva. Dr. Weeks has found that this solution destroys the vitality of germs in two to three days. Its value as a germicide for antiseptic purposes in eye surgery is therefore limited. When we con-

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* ℞

Hydrarg. bin-iodidi,	1
Alcohol absoluti,	400
Aquae destill.	20,000

M.

sider the fact that this solution is frequently injected into the anterior chamber after the extraction of a cataract, we cannot fail to see that such eyes are subjected to more danger than is consistent with antiseptic surgery. We have frequently injected into an anterior chamber after such operations, a solution of the bichloride of mercury of the strength of 1 to 10,000, with excellent effect. It is improbable that this solution is strong enough to set up a sero-fibrinous inflammation, while the chances that any suppurative inflammation will arise is far less probable than in the case of Parras's solution, seeing that a solution of the bichloride of mercury of the above-mentioned strength will destroy the vitality of pyogenic microbes in *five minutes.* Most observers agree with reference to the immunity that microbes enjoy from boric acid.

In view of this agreement, it would hardly be wise for any surgeon at this time to rely upon boric acid as a germicide or even as faithful antiseptic in operative surgery.

Dr. Weeks' paper shows much painstaking assiduity. The large number of experiments made by him and the exactness of his statements entitle his work in this department to our earnest consideration.

IN A BOOK OF SATIRICAL DIALOGUES just published by Mr. Philip H. Welch, the physician is not allowed to escape.

In the experiences of Herbert L. S. Montague Swell, M. D., we have a picture, only slightly burlesqued, of the fashionable physician and his patient.

Dr. Swell (rising): " My dear Mrs. Hysteria, I should be delighted to see you this morning, if I did not fear that your call means a return of your old enemy. Yes? I thought so, and I may say that I have expected it! I noticed at the Meredith dinner, last week, how very fragile you were looking. You are not the woman, physically, to be the society leader that you are. Your temperament is too sensitive, your nervous system too delicately organized to stand the strain. Other women do it? Of course they do, my dear madam; but other women are not you! We do not expect the same wear from a delicate piece of Sévres porcelain that we do from Ohio delf."

Having thus severely reproached his patient, he proceeds to deal out treatment with an unrelenting hand. Such ravage of the vital forces calls for stringent measures. "You must take care of yourself!" he tells her. " I've written out a prescription, a light tonic, which I want you to take every day at eleven and three, in a glass of old port. I will stop to-morrow, as I drive by; and next week, if you are not stronger, I shall send you to Hollywood or Old Point."

The cleverness of this scene is in its aroma, as subtle as that of the old port recommended to the victim of society. It is funny, because it is true to life. Mr. Welch falls far below Du Maurier in brilliancy, but he gains in humor almost as much as he loses in wit. In Du Maurier's sketches we see a tiny tint of human nature flashed from the facet of a diamond. In Mr. Welch's we see a larger action in a beveled mirror.

"SEVERAL YOUNG DOCTORS," recently graduated from an illustrious university in this country, have written to the JOURNAL, inquiring as to the State Examining Boards of the different States. So far as is known to us, there are but three State Examining Boards in this country. These are in Virginia, North Carolina, and Illinois. A young man well prepared for the practice of medicine need feel no hesitation in appearing before any of these Boards. Recent graduates, especially are in excellent condition to stand the examinations of these State Boards, for the information of the young graduate is exactly of the nature required by the State Boards. When they have practised for a few years and forgotten much that is merely technical and learned to question much that is practical, their chances for successful examinations will become less.

If they must go before these Boards let them not stand upon the order of their going, but go at once.

A SHORT ARTICLE on Placenta Prævia with Marginal Implantation of the Cord has been received, without the name and address of the author. The Publisher will be much obliged for information as to these points.

END OF VOL. XLVI.

Champagne ANALYZED

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WHAT IS SAID BY

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